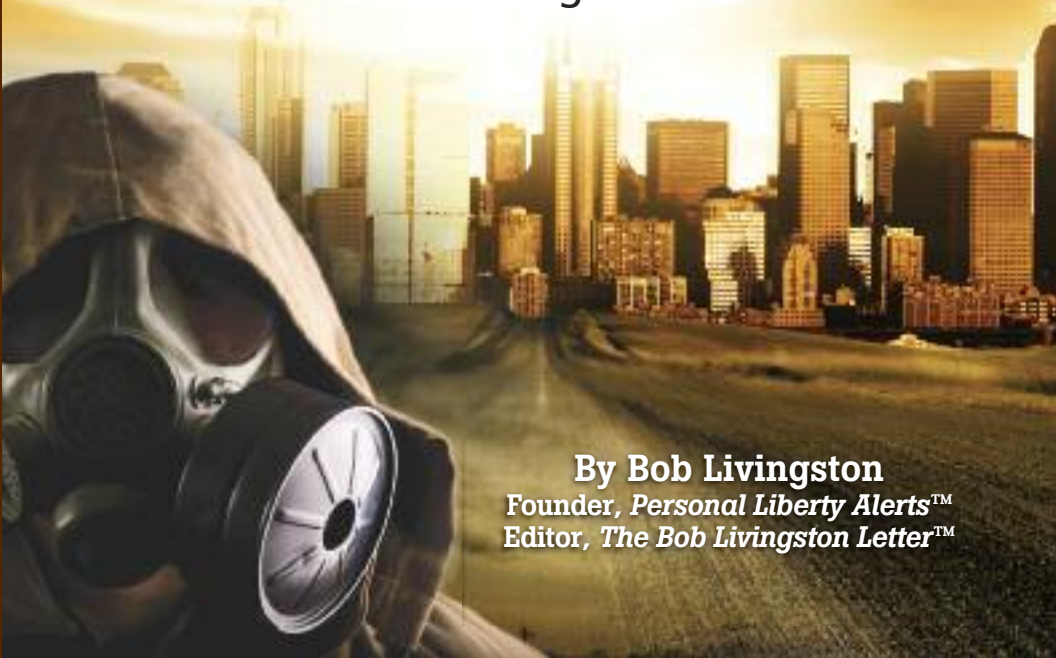
A SURVIVAL TREASURY

How to Survive the Collapse of Civilization

Practical, Low-Cost Strategies for Coping with Global Epidemics, Terrorist Attacks, Electrical Grid Disruptions, Food and Water Shortages—and Much More!



By Bob Livingston
Founder, *Personal Liberty Alerts*™
Editor, *The Bob Livingston Letter*™

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How to Survive the Collapse of Civilization

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CHAPTER 1

How to Survive a Catastrophic Terrorist Attack or Social Unrest

When terrorists flew airplanes into the World Trade Center Towers and the Pentagon on September 11, 2001, Americans came to realize they were no longer safe from terrorists and the fear and destruction they can inflict. No longer was terrorism confined to foreign countries like Israel, Pakistan and Lebanon. It was on America's front lawn.

Since then there have been a number of attempted terrorist attacks thwarted by United States law enforcements agencies, from New York to Chicago to Washington. And the attack by U.S. Army Major Nidal Malik Hasan at Ft. Hood, Texas—in which 13 people died and 29 more were wounded—could rightly be called a terrorist attack. But in the wake of 9/11, Americans heard many heard many horror stories about the possibility that terrorists could use chemical, biological and nuclear weapons to kill U.S. citizens.

And make no mistake: Islamo-fascist terrorists would like nothing better than to launch another significant attack on America and will stop at nothing to achieve their ends. In fact, intelligence recovered in May, 2011 at the Pakistani compound that had been 9/11 mastermind Osama bin Laden's home for at least five years revealed bin Laden's

obsession with killing large numbers of people.

Also, in 2003, extremist cleric Nasir bin Hamd al-Fahd issued a fatwa in which he declares that Islamic law permits the use of weapons of mass destruction for jihad.

The word jihad is serious business for Muslim extremists who adhere to the strict interpretation of the Koran. Their jihads contain no timetable in that terrorists are patient and relentless. Consider the attacks through history by Muslims in which Americans were killed:

- **November 4, 1979, Tehran, Iran —** Iranian radicals, including current Iranian President Mahmoud Ahmadinejad, seized the U.S. embassy, taking 66 hostages. Fourteen were later released, but the remaining 52 were not freed until President Ronald Reagan's inauguration after 444 days of captivity.
- **1982–1991, Lebanon —** Thirty U.S. and other Western hostages kidnapped in Lebanon by Hezbollah. Some were killed, some died in captivity and some were eventually released. Terry Anderson was held for 2,454 days.
- **April 18, 1983, Beirut, Lebanon —** U.S. embassy destroyed in suicide car-bomb attack; 17 Americans among the 63 dead. The terrorist organization Islamic Jihad claimed responsibility.
- **October 23, 1983, Beirut, Lebanon —** Shiite suicide bombers exploded a truck near U.S. military barracks at Beirut airport, killing 241 marines. Minutes later a second bomb killed 58 French paratroopers in their barracks in West Beirut.
- **December 12, 1983, Kuwait City, Kuwait —** Shiite truck bombers attacked the U.S. embassy and other targets, killing five and injuring 80.

- **September 20, 1984, East Beirut, Lebanon —** A truck bomb exploded outside the U.S. embassy annex, killing 24, including two members of the U.S. military.
- **December 3, 1984, Beirut, Lebanon —** Kuwait Airways Flight 221, from Kuwait to Pakistan, hijacked and diverted to Tehran. Two Americans killed.
- **April 12, 1985, Madrid, Spain —** Restaurant frequented by U.S. soldiers bombed, killing 18 Spaniards and injuring 82.
- **June 14, 1985, Beirut, Lebanon —** TWA Flight 847 en route from Athens to Rome hijacked to Beirut by Hezbollah terrorists and held for 17 days. A U.S. Navy diver executed.
- **October 7, 1985, Mediterranean Sea —** Gunmen attack Italian cruise ship, *Achille Lauro.* One U.S. tourist killed. Hijacking linked to Libya.
- **December 18, 1985, Rome, Italy and Vienna, Austria —** Airports in Rome and Vienna bombed, killing five Americans and 15 others. Bombing linked to Libya.
- **April 2, 1986, Athens, Greece —** A bomb exploded aboard TWA flight 840 en route from Rome to Athens, killing four Americans and injuring nine.
- **April 5, 1986, West Berlin, Germany —** Libyans bombed a disco frequented by U.S. servicemen, killing two and injuring hundreds.
- **December 21, 1988, Lockerbie, Scotland —** A New York-bound Pan-Am Boeing 747 exploded in flight and crashed into a Scottish village, killing all 259 aboard and 11 on the ground. Passengers included 35 Syracuse University students and many U.S. military personnel. Libya formally admitted responsibility 15 years later

(Aug. 2003) and offered $2.7 billion compensation to the victims' families.

- **February 26, 1993, New York City —** A bomb exploded in the basement garage of the World Trade Center, killing six and injuring at least 1,040 others. In 1995, militant Islamist Sheik Omar Abdel Rahman and nine others were convicted of conspiracy charges, and in 1998, Ramzi Yousef, believed to have been the mastermind, was convicted of the bombing. Al-Qaida involvement is suspected.
- **April 19, 1995, Oklahoma City —** Truck bomb exploded outside the Murray Federal office building, collapsing wall and floors, killing 168 people, including 19 children. Timothy McVeigh and Terry Nichols later convicted and McVeigh was executed for the antigovernment plot to avenge the Branch Davidian standoff in Waco, Texas, exactly two years earlier. Some investigative journalists have claimed to have uncovered an Islamist (possibly Iraqi) connection to the incident, which some experts say can't have occurred as the federal government explains it, but had to involve more explosives than has been disclosed. Despite evidence of a co-conspirator, including an artist's rendering of a man said to have accompanied McVeigh during the purchase of explosives and rental of the truck used in the bombing, governmental authorities have discounted a possible foreign connection.
- **November 13, 1995, Riyadh, Saudi Arabia —** A car bomb exploded at the U.S. military headquarters, killing five U.S. military servicemen.
- **June 25, 1996, Dhahran, Saudi Arabia —** Truck bomb exploded outside Khobar Towers military complex,

killing 19 American servicemen and injuring hundreds of others. Thirteen Saudis and a Lebanese, all alleged members of Islamic militant group Hezbollah, were indicted on charges relating to the attack in June 2001.

- **August 7, 1998, Nairobi, Kenya and Dar es Salaam, Tanzania —** Truck bombs exploded almost simultaneously near two U.S. embassies, killing 224 (213 in Kenya and 11 in Tanzania) and injuring about 4,500. Four men connected with al-Qaida, two of whom had received training at al-Qaida camps inside Afghanistan, were convicted of the killings in May, 2001 and later sentenced to life in prison. A federal grand jury had indicted 22 men in connection with the attacks, including Saudi dissident Osama bin Laden, who remained at large.
- **October 12, 2000, Aden, Yemen —** U.S. Navy destroyer *USS Cole* heavily damaged when a small boat loaded with explosives blew up alongside it, killing 17 sailors. Incident linked to Osama bin Laden, or members of al-Qaida terrorist network.
- **September 11, 2001, New York City, Arlington, Virginia and Shanksville, Pennsylvania —** In an elaborate operation, hijackers crashed two commercial jets into the twin towers of the World Trade Center; two more hijacked jets were crashed into the Pentagon and a field in rural Pennsylvania. Total dead and missing numbered 2,992. Islamic al-Qaida terrorist group blamed.
- **June 14, 2002, Karachi, Pakistan —** A bomb exploded outside American consulate in Karachi, Pakistan, killing 12. Linked to al-Qaida.
- **May 12, 2003, Riyadh, Saudi Arabia —** Suicide

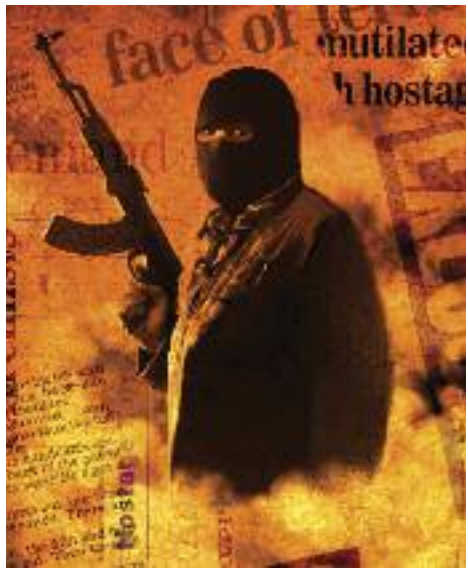
bombers kill 34, including eight Americans, at housing compounds for Westerners. Al-Qaida suspected.

- **May 29–31, 2004, Riyadh, Saudi Arabia —** Terrorists attack the offices of a Saudi oil company in Khobar, Saudi Arabia, take foreign oil workers hostage in a nearby residential compound, leaving 22 people dead, including one American.
- **June 11–19, 2004, Riyadh, Saudi Arabia —** Terrorists kidnap and execute Paul Johnson Jr., an American, in Riyadh, Saudi Arabia. Two other Americans and *BBC* cameraman killed by gun attacks.
- **December 6, 2004, Jeddah, Saudi Arabia —** Terrorists storm the U.S. consulate, killing five consulate employees. Four terrorists were killed by Saudi security.
- **November 9, 2005, Amman, Jordan —** Suicide bombers hit three American hotels: Radisson, Grand Hyatt, and Days Inn, in Amman, Jordan, killing 57. Al-Qaida claimed responsibility.
- **September 13, 2006, Damascus, Syria —** Attack by four gunman on the American embassy is foiled.
- **January 12, 2007, Athens, Greece —** The U.S. embassy is fired on by an anti-tank missile causing damage but no injuries.
- **December 11, 2007, Algeria —** More than 60 people are killed, including 11 United Nations staff members, when al-Qaida terrorists detonate two car bombs near Algeria's Constitutional Council and the United Nations offices.
- **September 16, 2008, Yemen —** A car bomb and a rocket strike on the U.S. embassy in Yemen as staff arrived to work, killing 16 people, including four

civilians. At least 25 suspected al-Qaida militants are arrested for the attack.

- **November 26, 2008, India —** In a series of attacks on several of Mumbai's landmarks and commercial hubs that are popular with Americans and other foreign tourists, (including at least two five-star hotels) a hospital, train station and a cinema. About 300 people are wounded and nearly 190 people die, including at least five Americans. Muslims from Pakistan are the culprits.
- **June 1, 2009, Little Rock, Ark. —** Muslim convert Abdulhakim Muhammad is charged with shooting two soldiers—killing one—outside a military recruiting center.
- **December 30, 2009, Iraq —** Eight American civilians (some of them agents of the CIA) killed by a suicide bomber at a checkpoint.

Add to these the dozens of attacks that either failed on their own or were thwarted by law enforcement and you see that Islamic terrorists continue to try and kill as many Americans as possible. The attempts include shoe bomber Richard Reid, who attempted to blow up an airliner with explosives in his shoes, seven men charged with plotting to blow up the Sears Tower in Chicago, four men plotting to blow up a jet fuel artery running through residential neighborhoods at JFK Airport in New York City, the



so-called underwear bomber who attempted to blow up an airliner with explosives concealed in his shorts, a car bomb set in New York's Times Square, explosive packages loaded onto two cargo planes and a pipe bomb in Spokane, Wash., set to explode during a parade.

The government continues to press the line that Islam is a peaceful religion that has been hijacked by a few extremists. But the evidence doesn't support that theory. Remember the jubilation expressed by Islamists all over the world as the Twin Towers collapsed. An image of the Palestinian woman clucking her tongue and waving her hands in the air will never be forgotten. She was just one of millions of sympathizers celebrating the deaths of almost 3,000 humans. In Muslim countries all over the world clerics are fomenting more and more hatred against the U.S. It's even happening in mosques here in America.

Evil takes many forms, and the methods of attack used by Islamic terrorists can take many forms as well. While their past history has been to use bombs (suicide bombers, car and truck bombs and on airplanes), 9/11 showed they can be more imaginative. Beyond that, they are also attempting to acquire and use chemical, biological and nuclear weapons.

Chemical Attack

In January, 2004, British police raided an apartment and found traces of the poison ricin, a substance derived from Castor beans. Police suspected the Islamic militants arrested in the case were plotting to lace the food supply on at least one British military base using the ricin. Some reports linked the Islamists with al-Qaida, and a British mosque raided later in connection to the case contained a number of forged passports, hundreds of documents relating to forging identities,

weapons and a gas canister. Since then ricin has been mailed to U.S. Senators and has been found in several locations in the U.S. Clearly, Islamsist have supplies of the chemical and are even now working to find the most effective means of distributing it.

Sarin gas has already been employed by terrorists in recent years. Sarin was developed in Germany in 1938. It was one of the nerve agents suspected to have been used during the Iran-Iraq War in the 1980. In 1995, five teams of homegrown terrorists in Japan released Sarin on the Tokyo subway, killing 12 and injuring about 6,000. It is so potent that even a small drop on the skin can cause sweating and muscle twitching on the exposed area. It is an odorless, colorless gas and could easily be introduced into the water system.

In addition to Sarin, mustard gas, tabun (also developed in Germany during World War II), chlorine and compounds containing arsenic were used by Iraq on Iranians during their war, making it likely that Islamists have ready access to these agents today.

Biological Attack

Just days after the World Trade Center Towers came crashing down in New York, someone delivered several letters containing anthrax to a New Jersey Post Office. On Oct. 5, 2001, photojournalist Robert Stevens died of pulmonary anthrax and co-worker Ernesto Blanco suffered from symptoms of what at first was thought to be the flu, but later determined to be pulmonary anthrax. By the middle of November five people had died from inhaling anthrax and 17 more were injured from inhaling or coming in contact with the agent.

Scientists studying the case determined the anthrax strains involved in the illnesses had the same genetic markers as U.S. military strains, but no definitive origin was ever reported in the media. The case seemed to have grown cold until late July, 2008, when an Army scientist committed suicide before federal prosecutors could charge him with mailing the letters.

Anthrax is one of several biological agents terrorists could employ. Others include botulinal toxin, smallpox and bubonic plague. In fact, recent reports that at least 40 al-Qaida terrorists died after the plague swept through their African training camp indicated the organization was diligently working to develop the bacteria (or its airborne form pneumonic plague) as a weapon of mass destruction.

Insects may also become a weapon used by terrorists, according Jeffrey A. Lockwood, author of *Six-Legged Soldiers: Using Insects as Weapons of War.* In the book he outlines cases involving the use of bugs on populations in addition to plans by governments that were never carried out.

In fact, bubonic plague reached Europe in the 14th Century after the Mongols catapulted flea-ridden corpses into the port of Kaffa. People fled, carrying bacteria, rats and fleas through the Mediterranean, he writes. Other instances: During World War II, the Japanese killed more than 400,000 Chinese by dropping plague-infested fleas and cholera-coated flies; the French and Germans pursued the mass production and dispersal of beetles to destroy enemy food supplies; and during the Cold War the U.S. military planned to produce 100,000,000 yellow fever-infected mosquitoes a month to use for dispersal over the Soviet Union.

Lockwood posits that terrorists with $100 worth of supplies, simple instructions and plane tickets could introduce Rift Valley fever (a mosquito-borne virus found in Africa that affects livestock and humans) to the U.S. or another target countries with little or no chance of being caught.

Nuclear Attack

"The commission believes that unless the world community acts decisively and with greater urgency, it is more likely than not a weapon of mass destruction will be used in a terrorist attack somewhere in the world by the end of 2013."

These words, uttered in January, 2009, by one of the authors of *World at Risk,* a report by the Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism, testifying before the U.S. Congress, highlight the danger in which we find ourselves. Indeed, with India and Pakistan—two nuclear-equipped adversaries—looking at each other through their weapon sights, with Iran developing nuclear technology, and with former Soviet nuclear scientists and possibly former Soviet nuclear weapons on the black market, the threat that a terrorist could get his hands on a nuclear weapon is real.

A nuclear detonation in an American city would be devastating, with possibly hundreds-of-thousands dying in the initial explosion and many more dying later or suffering the effects of radiation sickness. Infrastructure would also be destroyed. And then there's the damage to the American psyche. Anxiety and fear in the areas around the blast, in other cities anticipating another attack, and all across the country could set off mass panic.

Nuclear weapons can't be manufactured from the key raw material found in nature, uranium. Natural uranium

must be enriched before it is useable in a nuclear weapon, a process both expensive and complex. So terrorists would have to acquire already-enriched uranium from a government with functioning nuclear reactors or acquire a nuclear weapon from a nuclear-armed nation.

A likely scenario would be the use of a so-called dirty bomb by terrorists. A dirty bomb, or radiological dispersal device (RDD), is a conventional explosive wrapped in radiological material and designed to disperse radiation. While not as effective as a nuclear device, an RDD would still have a significant impact on the American people, who are growing increasingly complacent as the attacks of September 11, 2001 fade from their consciousness.

Terrorists could also set up a radiation-emitting device (RED) which could kill thousands. An RED could be placed in areas of dense population or high traffic where it would expose the most people in a short time span. The materials for both the RDD and the RED are easier for terrorists to acquire and their use is less expensive and time consuming than a more traditional nuclear weapon would be.

Terrorism experts fear that rogue nations like Venezuela could team up with international drug cartels or terrorist groups to smuggle a dirty bomb into the U.S.

And then there is the threat of an airborne electromagnetic pulse (EMP) attack that would wipe out the country's electronics and send the U.S. into the pre-industrial age.

Experts writing a special report for the Heritage Foundation describe an EMP burst as a high-intensity burst of electromagnetic energy caused by the rapid acceleration of charged particles.

It can be initiated by exploding a nuclear weapon high

above the earth, or by a non-nuclear weapon detonated close to a specific target. Of course, the nuclear version is far more powerful and will cause much more damage.

The particles set off by an EMP would interact and send electrical systems into chaos in three ways. It disrupts electronics, acts as a powerful lightening strike, and flows through electricity transmission lines, damaging distribution centers and fusing power lines.

With modern life depending so much on electricity and electronics today, just think of the consequences. Power grids would shut down, computers and their networks would crash, sewer systems would cease to function, cars and trucks would no longer run, and telephones and ATMs would shut down.

With no electricity, food supplies, water systems, heat and communications, police and fire protection would be non-existent. All the normal day-to-day functions that we take for granted would cease.

According to a 2004 report prepared by the Commission to Assess the Threat to the United States from Electromagnetic Pulse Attack, chaired by Dr. William R. Graham of the Claremont Institute, an EMP attack would spark, "unprecedented cascading failures of major infrastructures." The report also says, "The degradation of infrastructure could have irreversible effects on the country's ability to support its population."

Writing about the report for *FrontPageMag.com,* Lt. Col. Gordon Cucullu said:

> "This means mass starvation because food deliveries cease, urban deaths by dehydration as water systems fail, collapse of medical systems, breakdown of police functions, ineffectiveness of firefighters, loss of bank records,

> inability to move physically other than by foot, and the return of America to a 'pre-industrial age' state. Americans who live in rural environments might survive. The larger the cities and the more densely populated they are, the greater the probability of mass death. An EMP attack, in other words, could be many times worse than a nuclear explosion at ground level with the intent to use explosive force to kill. Such an attack is indeed a terrorist's dream—and an American nightmare."

Experts believe that it won't necessarily be a traditional nuclear power—say Russia or China—that carries out such an attack. However, countries like North Korea or Islamists in Pakistan could pass a weapon (or the technology to build one) on to terrorists who would be willing to detonate it. And, Iran is working to develop the capability, according to Graham.

In testimony before the House Armed Services Committee, Graham said Iran has been test-firing Shahab-3 missiles from platforms in the Caspian Sea. He believes they are determining the viability of launching them from ships near the American coast in order to get a nuclear warhead to altitude to detonate it.

Scientists first became aware of the affect of EMPs when the U.S. began testing nuclear detonations at high altitude. In 1962 a device was detonated 250 miles above Johnston Island in the Pacific Ocean and electrical equipment in Hawaii, more than 870 miles away, was affected. Everything from street lights to car alarms to circuit breakers and communications systems showed damage.

While not nearly as powerful, a non-nuclear EMP weapon would be easier to get into place and less expensive. Its effects would be felt on a much smaller scale but would still

devastate the electrical systems of small areas—sections of large cities, for example.

Another option for terrorists is a direct attack on a U.S. nuclear power plant or a vehicle transporting nuclear waste from a power plant, causing the leakage of large amounts of radioactive materials into the atmosphere. While such an attack isn't likely to cause high numbers of immediate casualties, people in the immediate area or downwind and exposed to the radiation cloud could experience radiation poisoning and long-term illnesses like cancer.

Natural Disasters

There are approximately 6.9 billion people in the world, according to the U.S. Census Bureau, and that number is expected to rise to 9 billion by the middle of the 21st Century. This growing population has resulted in some densely populated areas, and when those areas are hit by disasters—

whether natural or man-made—the resulting casualty figures can be staggering.

Take, for instance, the earthquake in Haiti.

In January 2010, near the Haitian capital of Port-au-Prince, a 7.0 magnitude earthquake struck that killed 316,000 people, injured another 300,000 and displaced more than a million. Barely a third-world country to begin with, the Haitian infrastructure was decimated. Structures crumbled, roads were ruined, communication ceased and the supply chain stopped. Because sanitation systems ceased to function and the scale of the disaster was so great, diseases became rampant. It will take years for the country to reach some semblance of normalcy.

Just three months later, two disasters that equaled or exceeded Haiti's—at least in amount of area affected—struck Japan. On March 11, 2011, a 8.9 magnitude temblor and resulting tsunami created a scene of devastation across Japan that boggled the mind. In its aftermath, Japanese citizens were also faced with one of their worst fears, a radiation leak at a nuclear power plant that resulted in the melt down of the core reactor.

Weeks later officials were still tallying the death toll and the property damage, but deaths were expected to number in the tens of thousands. And this is in a country that considered itself as technologically-prepared for an earthquake as any other in the world.

The images of people in New Orleans crowding into the Superdome and stranded on interstate overpasses in the wake of Hurricane Katrina will be forever seared into the minds of Americans. Their circumstances were a perfect example of what happens when you make no effort to prepare yourself for disasters: Whether they come from nature or by the hand of man.

And more recently, as severe ice storms raced across the Midwest in late winter of 2009, knocking down power lines and trees and leaving 1.3 million homes in the dark, people were forced to spend days in shelters and depend on military MREs (meals ready to eat) because they had no heat, no water and no food. Put simply: They were unprepared.

One man, forced to stay in a Kentucky shelter, was quoted as saying, "I had no idea the storm was going to last this long."

Natural disasters can come in the form of hurricanes, tornados, blizzards, ice storms, floods, or earthquakes. They can come in the form of volcanic eruptions or tsunamis. One thing they all have in common: They can strike with little or no warning and you won't know how long the hardships they cause will last.

So far, in the U.S., the incidents that had the longest-lasting effect on civilization were hurricanes. You remember Katrina which affected Louisiana, Mississippi and Alabama, and Andrew in Florida, in which thousands were left without water, food and shelter for weeks, and in some cases months.

In south Florida after Andrew struck in 1992, almost 250,000 were left homeless and power was out for up to six months in some places. Luckily for those living there, state and federal government responders were able to provide for the basic needs of displaced residents pretty quickly, reducing the effects of the social breakdown in the area.

In New Orleans, which was spared the brunt of one of the most powerful storms to hit the U.S., people were displaced by storm damage and the flooding that followed the failure of the levee system. In the days that followed there was widespread looting and people died as a result of lack of food, potable water, medical care and shelter.

While the effects of these two disasters were relatively short-lived (weeks or a couple of months for most), they show what can happen when the social order dissolves. They also give a glimpse of what could be expected if a major catastrophic event were to strike the country.

And whether it's a catastrophe resulting from the actions of terrorists, the hand of nature, or because the nation's economy collapses under the weight of fiat currency, there could come a time in the near future where civilization as we know it—the social order—collapses.

Global Economic Collapse

Around the globe major financial institutions are failing and governments seem at a loss as to how to stop the crash. So they print money and try to throw it into the ever-deepening financial hole.

This is the sort of economic plan that leads to hyperinflation—a rapid increase in prices and decrease in the value of the monies used in society. It has happened before.

During the era of 1918-1923, the Weimar Republic in Germany began printing money at a dizzying rate, setting off hyperinflation. Prices were rising so fast that workers receiving their pay would immediately run to the store to buy foodstuffs before prices climbed again. Business and industry were paying their employees with wheelbarrow-loads of cash.

In trying to keep up with the falling currency rate, Reichsbank printed a 1,000-billion Mark note that was so worthless when it was spent few bothered to collect the change. By 1923, with one dollar equal to one trillion Marks and inflation at 30,000 percent, the collapse of the German currency was complete.

More recently, in Zimbabwe, inflation hit 11 million percent. The government then acknowledged that its own currency was done and began issuing licenses allowing stores and businesses to begin accepting U.S. dollars, South African rand, and other foreign currencies.

By December, 2008, inflation was over a trillion percent and the economy had been "dollarized," signifying that local currency was virtually unacceptable as legal tender. Many have begun barter trading, with the most prominent bartered item being a fuel coupon worth about $30.

In both cases, as in all others, those that put their faith in the currency of the government were left destitute. Many have starved, or have had to resort to criminal activity to survive.

This could happen again if history repeats itself and economies begin to collapse under the weight of government actions that cause what they're trying to prevent.

Be Prepared

Since you never know when some sort of catastrophe is going to hit, and you never know how bad it will be or how long it will last, the only way to guarantee your survival is to be prepared.

What does that mean? It means using common sense. It means getting yourself in a position to provide the basic needs of you and your family until civilization is restored to normal. The three basic needs are, in order of importance: Water, food and shelter.

One of the simplest things you can do is keep your car filled with enough gasoline to evacuate. Often, especially in the case with major storms, there is ample warning to get

yourself and your loved ones out of harm's way. And that may be the case in the event of a terrorist attack as well. The powers that be may know in advance of an incident and could inform the public that an evacuation is necessary. An emergency radio is a necessity. It will let you know in times of crisis what steps the government suggests you take to protect yourself in both the short and long term.

You should also have several flashlights, plenty of batteries (both for the flashlights and the radio) and a planned location for family members to rendezvous if they are separated before, during, or after the crisis.

Prepare a Take Box

A compilation of copies of all your personal items is essential if you are forced to evacuate—whether it's because of a terrorist attack, a hurricane, or fire. This "take box" should have everything you need to reconstruct your life in the event you evacuate and everything is lost.

This includes: Passports; birth, wedding, adoption, divorce and armed service separation certificates; copies of insurance policies; mortgage information; house and car title; large purchase receipts and any other important documents you can think of. You should also have digital copies of your personal photos, videos and other precious keepsakes. This is especially easy to do now that scanners and digital storage devices are so inexpensive.

But suppose the crisis is not temporary. Suppose the crisis is a catastrophe of such magnitude that the foundations of government collapse, both locally and nationally. What then?

Other Preparations to Consider

One often overlooked survival tool that comes in handy—whether it's for cookouts or even if the power is out—is a barbecue grill that uses propane. Propane is a clean-burning fuel that is easy to store and does an excellent job cooking just about any food. It can be used like any stove as well as for cooking your chicken and burgers. The ease of storage of propane fuel, which comes in various-sized tanks, makes a barbecue grill a priceless survival item no matter where you live.

A camping cook stove would be an excellent addition to your emergency preparedness kit. They come designed to use candles, charcoal, white gas, butane, or propane. You should take a few minutes to evaluate their differences and the way you suspect you will use it before deciding which one to choose. Among the things to consider are:

- Are you going to stay put or do you plan to move around.
- Availability and ease of storage of fuels.
- The number of people you will be cooking for.

Remember, though, that your cooking fuel is precious to you, and attractive to any would-be looters. Make sure you store any extra fuel in an inconspicuous, out-of-the-way place.

If you suspect you may have to flee your home and live outdoors for a time, a tent and sleeping bags will be essential. As when choosing your cook stove, before buying your tent and sleeping bags you need to consider the way you will be using them. Think about the number of people that will be sleeping in the tent, and the climate in which you will live. There are many sizes and qualities of tents and sleeping bags available for purchase today.

Preparing a Safe Room

In the event of a chemical biological or radiological attack, a safe room is essential to survival. The safe room should ideally be a room in the interior of the home. If no interior room is available, choose one with as few external walls and windows as possible. An adjoining bathroom is also desirable.

To prepare the room, buy enough of the following to cover all windows and doors to the safe room area:

- Weather stripping
- Clear plastic sheeting at least 1 mil thick, preferably clear, and wide enough to cover windows
- Scissors or other cutting tools
- Duct tape
- Caulk and caulk gun
- Staple gun
- A portable HEPA (High Efficiency Particle Arresting) air filtration device

So your room will be ready when you need it, go ahead and install the weather stripping on your windows and doors, making sure the seal eliminates the transfer of air from outside into your home. Check around your windows for gaps, and caulk those as necessary. Also check for any other places where air might transfer like holes cut into walls or floors for the television cables and telephone wires. If you find those areas you should caulk them as well.

When installing the plastic sheeting, use the staple gun and/or duct tape to hang it. In places where you use the staple gun, be sure to cover the staples with duct tape to seal off any holes or tears in the plastic.

You should also be sure you have access from your safe room to your stored food and water, or bring as much as possible into your room before you seal it off, since you don't know how long you may have to be sealed inside.

Preparing Electronics for an EMP Attack

If planning to endure an EMP attack with your electronics secure you have to properly insulate them beforehand. Obviously it's impossible to shield everything, but you can take some action that will allow you to have some working electronics and preserve some essential data.

A system called a Faraday cage will preserve your electronics from an EMP of 50,000 volts per square centimeter on your equipment. That's about what a nuclear explosion 200 miles away would produce.

To build a Faraday cage you will need materials that conduct electric current the best—silver first, copper second, aluminum third.

A Faraday cage for radios and small appliances can be built using two cardboard boxes. They should be sized so one fits tightly inside the other, and the item to be shielded should fit inside the smaller box.

Cover the outer box with aluminum foil or Mylar. Tape a grounding wire to the foil, then cover the foil with black plastic, 6 mill thick.

This protects the foil from being ripped or torn. Attach an alligator clip to a sufficient ground that will take the pulse outside the home and away from the appliance. An item placed inside a box like this would be shielded because the EMP hitting the foil is bled away by the ground wire.

To shield larger appliances, tape a Mylar space blanket to a piece of 6 mil plastic sheet using double-sided sticky tape. Leave a two inch border of plastic hanging over. Tape a short ground wire with an alligator clip attached to the end. Then tape the edges down. You should also have ground wire behind the appliance to divert the energy outside.

This type of shield can be used to cover stereo equipment, televisions, computers and other larger appliances, and the ground wire clipped to a previously-installed ground.

Experts say that as long as the tops and sides of the appliance are covered it should be adequately shielded, particularly if it sits on a non-conductive surface like a wood cabinet or floor.

You can store digital backups of your important computer data in a Faraday cage. But, a safer medium than, say, a USB flash drive, would be to make a copy on a CD. Or, to make sure your information is safe, go the old fashioned route and print out a copy of all your important information and store it in a filing cabinet.

Live Off-the-Grid

Many people today are choosing to live off-the-grid. This means they are looking for ways to keep as many of their conveniences as possible without having to rely on conventional means to receive their energy needs. There are many reasons for doing this—some have chosen to be environmentally friendly, some are preparing for an

emergency, and some just want to lower their energy costs.

Whatever the motivation, the trend has led to the development of many products to help consumers achieve their goals. This opens many alternatives for the survivalist.

First, there is a trend toward products that require no energy. They are remakes of appliances that our forefathers used and considered conveniences. They include wood-burning stoves for heating and cooking, sun ovens, hand-cranked washing machines and more.

Any of these would be excellent choices to help you in the event of a power failure.

Another helpful item would be a generator that runs on natural gas, propane and gasoline. This tri-fuel generator could run your refrigerator and some other small appliances for as long as there is a fuel source.

You can convert a gasoline generator to a tri-fuel using a simple conversion kit that is available online. Available from *www.propane-generators.com,* among other places, these kits are said to be easy to install. Propane is far easier and safer to store than gasoline and burns cleaner, meaning there's less chance of the generator malfunctioning if it sits unused for long periods. While gas tends to turn gummy during long periods of inactivity, propane does not.

As a reminder, be sure to ground your generator and cover it with a Faraday cage while it is being stored lest an EMP fry its circuitry. It will be a useless pile of scrap metal, just like all the other generators out there, if you forget to take this step.

There are also companies selling kits to convert your home to live off-the-grid by installing solar panels and windmills to make electricity. Such a setup would be ideal

for survival after a social breakdown, though it could suffer damage from an EMP and be ineffective if not properly protected.

Some people are starting to consider setting up a survival retreat—a place to go when catastrophe strikes. A Google search of the term turns up real estate companies specializing in such survival retreats. These are typically homes in rural areas, isolated from major communities, with cellars, storm cellars, or some other type of bunker and/or storage areas on the property.

These homes are often set up with generators and other survival backups to help survive in the event of a catastrophic event.

However, maintaining a second home can be an expensive and a time-consuming prospect. And homes without regular tenants require extensive maintenance or they deteriorate rapidly.

Stocking Your Survival Kit

There are many other items that should be in your survival kit. Even though they are listed last, that doesn't mean they should be considered as an afterthought. All of these are essential items if you plan to be prepared for the breakdown of society. Some of them are:

- Weapons and plenty of ammunition. A handgun, 12-gauge shotgun, .22 rifle and larger caliber rifle (.308 or 30-06) would be excellent choices for whatever comes your way in defense or hunting needs
- Good hunting knife and sharpening stone
- Extra clothing, hats and boots. When choosing

them consider the climate you will be living in

- Fire starter kit
- Candles, lanterns, matches, lighters
- Extra fuel for your cook stove
- Compass
- Bear pepper spray (Even if you don't live in bear territory this can be useful to help you deter looters or someone wishing to do harm.)
- Rain gear
- Tarpaulin
- Fishing gear (rod, reel, stocked tackle box)
- Chain saw and extra fuel
- An axe and a hatchet or hand axe
- File for sharpening axe and chain saw
- Gas masks and extra filters
- Vegetable seeds for planting a garden
- Tools for tilling the ground and digging
- A bicycle (It would give you alternate mode of transportation as long as the streets are safe to travel on.)

The more of these things you have the better off you are. Remember, you can't have too many necessities in a crisis. Anything you don't need can be used to barter for something you don't have. Inevitably there will be something you neglected to plan for no matter how much preparation you do. And that will apply to others as well. Also remember that you may have expertise that someone else needs, and they have an area of expertise that will benefit you as well. That expertise is another good item for barter.

Have Plenty of the Real Currency

Finally, your survival kit must contain as much gold and/or silver that you can accumulate. When social order collapses only precious metals will be valuable. Those greenbacks you carry will be worthless strips of paper since the only thing that makes them valuable now is the faith and credit of the U.S. government. When that is gone, so will be the value of the dollar.

Gold and silver has always had value and always will. It will be the means of commerce when all else fails. You should have on hand Gold Eagles, Canadian Maple Leaf, African Krugerrand or the Australian Kangaroo. We prefer these because they are stamped in English, have their gold content stamped on them, come in convenient, well-known sizes (1 oz., ½ oz., ¼ oz. and 1/10 oz.) and sell at small premiums over the value of their gold content. For survival purposes you may want to have 1/10 oz. and ¼ oz. sizes since they would be easier to use than larger

sizes. Also, in the case of the American Eagles, the U.S. Mint lists them as legal tender.

For silver we recommend buying pre-1965 U.S silver coins. They were minted using 90 percent silver. They are still legal tender and are more valuable than their face value (proving the devaluation of the dollar) because of their silver content. One of the best ways to buy these is in bags with a thousand dollars face value of dimes, quarters, half-dollars, or silver dollars. A bag contains 715 oz. of coins and currently costs between $28,000 and $30,000. You can also buy Silver Eagles, which contain one ounce of silver.

How to be Safe in a Riot

With a breakdown in social order, comes an increased chance of rioting.

In August of 1965 a reported act of police brutality touched off riots that consumed the Los Angeles neighborhood of Watts for five days. When it was over, more than 34 people were dead, at least 1,000 were wounded and $200 million in property was destroyed by looting and fire.

Twenty-seven years later the acquittal of four officers in the beating of Rodney King sparked more rioting in Los Angeles that lasted three days and resulted in the death of 54 people and destruction of $1 billion in property.

This is what can happen when social order breaks down. The “riot beast” as some call it, grows quickly and can suck in innocent bystanders as easily as it can the fringe criminal element just looking for an opportunity to strike.

Do you know what to do if a riot begins in your area? It’s not always possible to avoid a riot, as most of those injured or killed are innocents caught in the wrong place at the

wrong time. But there are a few things you can do to help protect yourself from getting caught up in the worst of it:

- Be prepared—If you know that tensions are brewing to such an extent that a riot is possible, but you can't avoid the area, try to be as inconspicuous as possible. Wear clothes that make you look like part of the crowd, but take care not to wear colors that could signal allegiance to one group or gang.
- Plan possible escape routes for the duration of your journey outside.
- Keep cash on hand to arrange for transportation or pay off looters.
- Remain calm—Riots bring intense emotions to the surface and you have to keep your emotions in check. Think rationally at all times.
- Get inside and stay inside. Stay away from windows and doors, try to get into the middle of the structure to put as many walls as possible between yourself and any bullets fired from outside, and lock all entrances into the building. But, keep in mind at least two escape routes. If rioters gain entry to your building leave in a hurry and try to find law enforcement authorities.
- Stay on the sidelines.
- If you're caught up in a riot, don't take sides. Try to be inconspicuous and move slowly but purposefully to the outside of the mob.
- Move away from the riot. The longer you spend in it the greater the chance you will be injured or killed. But move out slowly. Think of it as escaping the undertow, and move toward the outside so you can find an alley, side street, or doorway to get into.

- Avoid major roadways, as this is where the crowd is liable to be the greatest.
- Avoid public transportation. The stations may be particularly dangerous because of the chance of large crowds and difficult egress.
- Don't stop your car. Drive away from the riot and don't stop until you are in a safe place with no other people, except maybe law enforcement, nearby. If people try to block your course, honk your horn and continue driving carefully through them.
- If you're in the midst of a riot and police begin using chemicals, such as teargas, try to stay out of the line of fire. Try to stay away from the front lines, which will bear the brunt of a police action. If the air gets thick with chemicals, get low for fresh air.
- Do your best to stay on your feet. If you fall you are likely to be trampled. If you do fall, curl into a ball and protect your face and vital organs.

Should you believe that riots or looters may soon affect your neighborhood, you may deem it prudent to leave your home until the situation stabilizes. Most think that simply locking their doors and leaving is sufficient. But this won't keep out rioters who are not bound by the rule of law and certainly don't respect the locks on your doors and windows.

Keep Your Home Safe if You Must Flee to Safety

If you plan to flee and you have time, consider preparing your home to make it as looter-proof as possible before you leave.

You've probably seen video or photographs of homes along the coast being prepared for the onslaught of a hurricane.

Keep this visual in mind as you begin to make your home looter-proof.

Plywood over the windows and doors will confound most looters because the riots that fuel the looting are generally somewhat spontaneous. It's difficult to remove plywood covers without the proper tools, and the odds are against looters carrying pry bars, hammers and screwdrivers when a riot breaks out. Don't forget to cover skylights and other soft points as well.

If you have a large screened or glassed in porch, the best bet is to secure the small door that allows access to the home and sacrifice the glass or screen on the porch.

Garage doors can be problematic to cover. If you have a metal garage door you probably should just trust it to keep out looters. A wooden door can be breached with a swift kick to one of the panels. Cover each of the panels with plywood as if they were glass.

The plywood you use should be at least 3/8 inch thick. Any less and you may as well have no protection at all. Use screws to secure the wood. The screws should be 1 ½ to 2 inches in length.

If your home is boarded up, and other homes in the neighborhood are not, yours will likely be spared in lieu of the easier pickings.

If your house is hooked to natural gas or a propane tank, turn off the gas at the gas meter and water at the main valve. Turn off the electricity at the breaker or fuse box.

Should the local situation become so bad that you must consider evacuation to a safer place, do you know where you would go? The quick answer is to head north, to the Canadian wilderness, or even Alaska.

Escape when Highways are Unsafe

But suppose it was unsafe or unwise to use the highway system. Do you know how to find the best escape routes? There are several major national trails in different areas of the country that could be your lifeline if you need to move. To use these, you should obtain a map ahead of time of the trail or trails you think you'd use. Following is list of national trails and brief description of the area they cover:

- **Pacific Crest Trail —** (also known as the Pacific Crest National Scenic Trail) is a long distance mountain hiking and horseback trail that goes from the United

States border with Mexico to its border with Canada, crossing up through the states of California, Oregon and Washington. Thus, if you want to head north to Canada (from California, Oregon, or Washington) it's a great trail to consider.

- **The Lewis and Clark Trail —** runs 3,700 miles in total, making it the second longest of the 23 National Scenic and National Historic Trails. It begins at Hartford, Illinois, and passes through the states of Missouri, Iowa, Kansas, Nebraska, South Dakota, North Dakota, Idaho, Montana, Oregon and Washington. The official headquarters of the trail can be found in Omaha, Nebraska. Of important note is that the trail follows the Missouri and Columbia Rivers, adding to its relevance as an evacuation route as one can utilize a boat as well as foot when traversing the areas around the trail.
- **Appalachian Trail —** is a very well known hiking trail that spans the eastern United States. The trail is more than 2,000 miles long, extending from Springer Mountain (in Georgia) to Mount Katahdin in Maine. It is generally surrounded in wilderness, making it an ideal place to get away. That said, there are some portions of the trail that traverse towns and roads and crosses rivers. The trail passes through Georgia, North Carolina, Virginia, Tennessee, West Virginia, Pennsylvania, Maryland, New Jersey, New York, Connecticut, Massachusetts, Vermont, New Hampshire and Maine. An extension of the trail now continues into Canada, where it eventually meets up with the Atlantic Ocean. One of the advantages of the Appalachian Trail is that there are more than 200 shelters and camp sites along the way. These shelters

are often open, three-walled structures with a wooden floor. They are usually placed near a water source.

- **Continental Divide Trail —** (also called The Continental Divide National Scenic Trail) is 3,100 miles long, following the Continental Divide along the Rocky Mountains between Mexico and Canada. It passes through Montana, Wyoming, Idaho, Colorado and New Mexico. Unfortunately, this trail is a combination of dedicated trails and small roads, so not all of it is beyond reach of civilization. It isn't complete, and the areas that have not yet been completed can only be traveled by bushwhacking or road walking. It takes about six months to traverse the entire trail. Travelers should also realize that there is very little water to be found along the trail in New Mexico. However, in that area (about 700 miles) there are usually plastic gallon jugs left to utilize for water gathering purposes.
- **Florida Trail —** is 1,400 miles long between Miami and Pensacola, Florida. It is a National Scenic Trail (one of only eight in the United States).
- **North Country Trail —** is 4,600 miles from Crown Point in eastern New York to Lake Sakakawea in western North Dakota. It passes through the states of New York, Pennsylvania, Ohio, Michigan, Wisconsin, Minnesota and North Dakota. Along the way, hikers will find numerous parks, forests, wildlife refuges and historic sites. On the trail there are 57 state parks and state historic areas, 47 state forests, 22 state game areas and seven state water conservation districts.

Just like in real estate where the three keys are location, location, location, in a survival situation the three keys are

preparation, preparation, preparation. Preparation is vital to survival when a crisis hits, because after the storm comes things that can, deteriorate quickly. Whether the crisis stems from terrorism, collapse of the financial system, natural disaster or some other cataclysm, you must make your plans to take action before the crisis comes if you hope to survive what could turn out to be the last days.

CHAPTER 2

How to Survive When Food and Water are Expensive, Scarce, or Unsafe

Stroll down any aisle at the grocery store on an average day and you'll probably see thousands of items of all kinds made by any number of producers. Many times there are six or eight brands of the same item. And they come in all sizes.

But if the social order breaks down—whether as a result of a major natural disaster, terrorist attack, or deterioration of the financial system—food and water may quickly become scarce. The scarcity would lead to a surge in prices—the simple rules of supply and demand will kick in—and if you can find any grocery items they probably will be of inferior quality.

Since grocery stores carry only about a two-day supply for a normal shoppers' volume any panic-driven run on groceries will deplete shelves in hours, if not minutes.

The truth is, the U.S. food supply system is woefully unprepared for economic turmoil. The reliability and safety of U.S. food supplies are more threatened now than at any time in history.

Store inventories are dependent upon a computer network system that uses electricity, and a terrorist attack could wipe out the electrical grid or crash elaborate computer networks, causing an end to life as we know it.

Groceries are transported by trucks—from the farm to the processing plant to the warehouse to the store—and the trucking industry depends on fuels being plentiful. A disruption of the oil supply would be devastating to both supply lines and prices.

Imports are another problem. More than 80 percent of all fish eaten in the U.S. is imported, and most come from Asian countries. Many of those countries use human sewage and/or livestock manure in their fish farming.

For instance, in Thailand, chicken coops (as many as 20,000 birds per farm) sit in rows suspended over ponds that hold shrimp and fish that feed on the waste that falls from above.

In China—the largest exporter of seafood to the U.S.—fish farmers use unapproved antibiotics in their fish and shrimp production, according to the U.S. Food and Drug Administration (FDA). And untreated human waste and animal manure are used to treat soil and aquaculture ponds.

Violations of standards became so bad the FDA imposed a country-wide import alert on all farm-raised catfish, basa, shrimp, dace, and eel from China. The alert allows FDA inspectors to detain any of the subject imports without examination and require the importer to provide proof the foods are safe.

Most of the contaminants found in imported foods involved fecal matter. More than one fourth of all contaminated seafood imports detained in 2001 were contaminated with Salmonella bacteria. Most of the violations occurred in shrimp.

The U.S. also imports one third of its fruit and 15 percent of its vegetables, and the use of untreated manure in soil preparation and unapproved pesticides infests that industry as well.

But it's not just imports that pose a problem. The recent Salmonella outbreak that emanated from a Georgia factory that produced peanut butter exposed loopholes that allowed the company to avoid inspections. And it took uncharacteristically long for scientists to pin down the exact source of the outbreak.

More serious threats to the food supply come from similar collapses of the food inspection systems, the bankruptcy of U.S. agribusiness companies, and the breakdown of food distribution systems stemming from a massive terrorist attack or social upheaval.

Experts warn that a military conflict overseas could cause shortages in the nation's oil supplies which could trigger higher prices and shortages. And a terrorist using an electromagnetic pulse weapon (EMP) or a computer virus could wipe out the entire electrical grid and send the U.S. back to the dark ages.

What can you do to protect yourself in the face of these threats? Stockpile food and water.

Stockpiling in preparation of some type of chaos-causing event was once considered by most of the mainstream a fool's errand. But it's no longer just survivalists who are advocating stocking up.

In a column in the *Wall Street Journal* in April, 2008, Brett Arends warned that it was time for Americans to start stockpiling. He added, "No, this is not a drill."

His recommendation came about following the spike in food prices brought on by the sudden rise in fuel prices. But the concept he advocates is a sound one.

If you decide to begin stockpiling in anticipation of a crisis, where do you begin?

Water Storage and Collection

Since water is more crucial to survival than food—you can only go two or three days without water but weeks without food before you are in serious trouble—we will discuss water first.

At the very least you should have a three-day supply of water stored. An average person needs about two gallons of water per day—one for drinking and one for washing, cooking, sponge bathing, laundry and washing dishes. If you live in a warm climate you would need more.

Bottled water can be purchased from the store, or you can store your own in plastic or glass containers. If you use plastic, stick with used soft drink bottles as they are more dependable. Milk jugs are not good for long-term storage as they break down over time.

If you decide you want to prepare for a longer-lasting emergency, stockpile enough water for a month, then three, then six, then a year. To do that, multiply two gallons by the number of people in your family and the number of days for which you want to prepare.

Large plastic storage drums are available from survivalist stores online to help you store large quantities. Experts recommend you use the following guidelines when storing water:

- Store drinking water in carefully cleaned, non-corrosive, tightly covered containers.
- Store containers in a cool dark place. Do not store in direct sunlight.
- Store the water away from gasoline, kerosene, pesticides, or similar substances.
- Stored tap water should be rotated every six months.

Prepackaged bottled water should be rotated once a year. Check the use-by date on the container.

- Rotate your stored water with the water you use on a regular basis. This practice helps insure you don't have water stored longer than one year.

It's also a good idea to have on hand the materials you need to purify water. This can be done by boiling, use of chemicals, or purification tablets available from an outdoor supply store. (More on this later.)

Finding Water in Your Home

Your home contains more sources of water than you may think of at first. If the public water system has not been contaminated you can drain much of the water from your plumbing system.

About 30 to 60 gallons (depending on the size) can be found in your water heater. There is a drain at the bottom that allows you to access the water. Turn the water heater off and allow the water in it to cool, and then drain it into clean containers. Sometimes the first gallon or two will have rust or sediment that has settled at the bottom. Discard this if necessary.

Treat the water with chlorine, iodine, water purification tablets, or by boiling.

There is also clean water in the storage tank (not the bowl) of your toilets. This, too, should be treated before it is used.

Finding an Outside Water Source

If you suspect there may be an emergency that lasts a long time it will eventually become necessary to find your own source of water. A topography map for your area is a good place to start. It will identify all significant water sources.

If you live in a rural area but don't have a map, finding water probably won't be too difficult. Many homes in warmer climates have swimming pools, and most farms with livestock have ponds. Think for a moment of nearby places you have traveled and try to remember pastures with ponds you have passed or bridges over streams or rivers you have crossed.

If nothing comes to mind, you can go into the forest and usually find a stream in a valley, or at least locate a channel for runoff that you can follow down hill to locate a body of water. Or you can look for dry creek beds, sandy bottomlands, or ravines. There may be water just below the surface.

City dwellers will find this more of a challenge, however. Again, swimming pools, if you can find them, can be a source for you. Although pools contain chlorine, it is not usually sufficient to remove all contaminates. So treat pool water as you would any other outdoor source and purify it.

If the pool is yours, keeping a cover on it when not is use will help to preserve it as an emergency source and help to keep out any airborne contaminates. Try to keep the cover clean and wash the area you put it on when removing it from the pool.

Other emergency outdoor sources include a pond or lake in a local city park.

It may be possible in outlying areas of the city to locate some underground source of water. Look for muddy spots with heavy vegetation (in the summer it will probably be greener than the surrounding area), and for willow trees, cottonwoods, and cattails. In warm weather, the buzzing of insects may also signify water, as they are prone to stay near ponds and streams.

Water witching, dowsing, or divining is an ancient (first

written record of the practice comes from the 1500s, but cave wall paintings found dating back 8,000 years depict the practice) method of using a forked stick or two sticks to locate water underground. Those who do it say a freshly-cut stick is needed. When using a forked stick, experts hold a fork in each hand, palms turned in. Make a loose fist, and hold the forks between thumb and index finger. The point of the stick will turn down when you are over water.

If using two sticks, find two with a 90º bend. Hold the short ends in each hand in a loose fist. The two sticks will cross when you are over water. It's been said that you can also use welding rods or coat hangers.

According to the American Society of Dowsers, everyone is born with the capability to find water by witching. However, practiced witchers say some can learn the art but others can't.

Another method of collecting water is to set up sheets of plastic or a tarpaulin and buckets to collect rain water. You can also wrap rags around you lower legs to collect dew early in the morning, then wring out the water into a container.

However, if you are unable to locate a permanent source of water, you may need to have a contingency plan to move to an area with a water source.

Water Purification

Any water you take from a stream, river, pond, lake, well, or swimming pool should be purified before drinking. You can purify water several ways: Boiling, adding iodine or chlorine, or using water purification tablets.

When boiling, bring the water to a rolling boil. This is the

most certain way to kill all water-borne pathogens. But actually, water doesn't have to reach the boiling point to be safe.

Microorganisms will die in water that maintains 160 degrees F. for 30 minutes and in 185 degree water in just a few minutes. So by bringing water to a boil (at 212 degrees) you ensure that pathogens are dead and the water is safe. Let the water cool. Then, pour it back and forth into separate containers a couple of times to add oxygen, which will improve the taste. It's not a bad idea to treat boiled water with iodine or chlorine as well.

If no fire is available, you can add three drops of tincture of iodine to each quart of clear water or six drops to each quart of cloudy water. Stir or shake and then let stand for 30 to 40 minutes to give the iodine an opportunity to kill the bacteria.

Chlorine bleach will work as well. Use two drops per quart for clear water, four drops per quart if the water is cloudy. Stir or shake and let the water stand for 30 to 40 minutes.

Water purification tablets are good to have on hand. Follow the instructions that come with the tablets to purify the water.

Additionally, emergency water purification and filtration systems are available that will filter the water through various strainers and/or charcoal. Most of them consist of a pump to transfer the water from one container, through the filtration system and then into another container. There are also gravity-fed systems available.

Purification and filtration systems can be extremely important tools to keep your water supply safe, as some systems claim to even remove viruses from water in

addition to most bacteria and other pathogens. There are several manufacturers and suppliers of purifications and filtration systems, both domestic and foreign, and they can be found with a simple internet search.

Food Storage and Collection

Like with water, you should keep on hand at least a three-day supply of food. It's easy to stockpile a few cans of meats, soups and vegetables, as well some rice and grains, to get you through a short-term emergency. You can do this by buying a few extra things each time you go to the grocery store. Remember, canned foods have a shelf-life of about two years, so rotate your foods.

For longer-term situations, some planning in advance can save you from tremendous hardship if catastrophe strikes. To prepare, you should have a good stockpile of both canned and freeze-dried foods. All canned soups, fruits, vegetables and meats should be kept in a dry, cool space.

To know what you need, make a note of the foods your family consumes during the course of a week. This will give you a good idea of what to buy and what to avoid.

Don't go out and buy expensive frozen dinners, cases of protein shakes or other expensive items even if that's what you normally eat. Doing so will break your budget and these items will spoil quickly if the power grid goes down.

Be smart with your planning and purchasing and you can accumulate food that will sustain you for a long time at very little cost. Just don't gather things your family will not eat. And, don't forget to add commonly-used spices, which help to make any food more palatable.

Food Storage on a Budget

For instance, oatmeal is cheap, easy to make and contains a lot of essential nutrients. Ten or more large containers of instant or quick oats can be bought from a warehouse club for just pennies per serving. And all it takes is a little hot water and a few minutes to prepare.

Ramen noodles are available in several flavors and cost less than 20 cents per pack. Again, a little boiling water and few minutes time and you have the makings of a meal. They can be bought in bulk for even greater savings.

A few large boxes of Bisquick® will keep you in biscuits and pancakes, or can be used as topping for dinner or dessert pies. Buy rice in large bags, tea in boxes of hundreds and large bags of flour and sugar and you are set for a while.

In fact, with careful shopping and a lifestyle change you can cut your food costs way back right now, which will help you if you're living on a tight budget and are having difficulty scraping together enough food to stockpile.

Sourcing Fresh Produce and Eggs

Growing your own food is the most cost-effective way of getting fresh produce. Seeds can be bought in packets for as little as 50 cents. A package of organic corn seeds can be bought for less than $2.50 and will plant two six-foot rows of corn plants. Properly tended, those rows can feed a family of four all season.

It doesn't take a lot land to grow enough vegetables to feed you all year. A family in Pasadena, California, farms a city lot that is about 1/10 an acre and feeds not only themselves, but has enough to sell to local stores, fruit stands and caterers. They claim to grow more than 6,000 lbs. of

produce each year on that small plot.

Growing your own food is inexpensive money-wise, but it does require sweat equity and a commitment if you are to be successful.

Just as it doesn't take a lot of space to grow produce, egg-producing chickens can be raised in a small space as well—even in the city. Many cities will allow two or three chickens per household, but be sure to check you local zoning laws before you dive in too deep.

Chickens require only a little space, aren't very noisy and can provide you with eggs year round. They will eat almost anything, even table scraps, and if they are in the yard will consume many insects and weeds.

Their coops, or enclosures, should be from two square feet to ten square feet per bird. And many coops are designed to move around the yard to give chickens fresh ground to

pick around on.

Each chicken will lay about two eggs every three days during its prime laying period.

Don't want to commit your time or energy to growing you own food? You can still have fresh produce without paying high supermarket prices by buying a stake in local farm.

You can buy a share from a local grower and have all the fresh farm produce and eggs you can eat for a year by buying into a farm that is part of a Community Supported Agriculture (CSA). It costs about $200-$300 per stake, and the farmer works the farm and the stakeholder gets a ready supply of fresh produce.

It benefits the farmer because he has the capital to invest in his farm at the beginning of the growing season and doesn't have to worry about marketing his products at the end of the season.

The stake holder benefits by receiving a continuous supply of fruits and vegetables—often organically grown—at a much lower cost than if the same items were bought from the market. It works out to about $1.60 per day and a share is good for a family of four. Buy three shares and you can feed 12 people—a small army—for about $5 a day.

About 2,500 farms now participate in the CSA and they can be found with an Internet search.

Canning

Another way to save money while stocking up is to can your own food. You can use traditional home canning methods and place the food in canning jars, or buy the equipment needed to dry can your food.

Dry pack canning is a method of storing foods for

significantly longer periods. It works on items that contain little or no moisture like powdered milk or eggs, sugar, rice, pasta, dried beans and wheat.

While the initial investment in the equipment seems expensive—$420 and up depending on the sophistication of the canner—it's something that will pay for itself if you are serious about storing foods for the long term. It seals foods in an air-tight environment, which prevents spoilage or infestation of bugs or rodents.

In addition to the dry foods mentioned, dry pack canning is suitable for low moisture foods like dried fruits. However, foods with high oil or fat content are not suitable for this method of canning, nor are fresh fruits and vegetables which require heat to process.

If you are planning on a long-term crisis of a year or more, grains, such as wheat, oats and barley, dried beans and dried fruits are essential for your long-term survival. Many a good meal can be made using beans, rice and bread. Throw in dried fruit for dessert and you have a hearty, satisfying meal.

In her book, *Emergency Food Storage and Survival Handbook,* Peggy Layton suggests finding a convenient space under stairways, in the basement, in closets, or spare bedrooms to build shelves for food storage. The storage area should ideally maintain a constant temperature of between 40º and 60º F. Temperatures above or below this range make the deterioration of nutritional value decline more rapidly.

Meals Ready to Eat

Freeze-dried foods and military style Meals Ready to Eat (MREs) are convenient types of foods to have on hand for emergencies. These are available from outdoor supply stores,

survivalist stores and via the Internet. There are various types of MREs that can be purchased in kits with quantities to feed families for up to a year.

Internet sources for MREs include:

www.theepicenter.com
www.survivalacres.com
www.thereadystore.com
www.longlifefood.com
www.safetycentral.com

Warehouse stores like Costco sell freeze-dried emergency food kits in plastic buckets with as many as 269 servings for about $100. This is touted as a 1-month supply of 2,000 calorie per day meals for one person. There are also larger kits available for a price.

When buying these pre-packaged meal kits, be sure you compare the packages for a list of meals and ingredients included before making your purchase. Some tend to scrimp on their offerings and provide just enough to survive but not enough for a hearty, filling meal.

Implementing Your Food Storage Plan

Finally, here are some tips to help you with preparing and implementing you food storage plan:

- **Variety:** Most people don't have enough variety in their stockpile. There are several grains, many kinds of beans and many flavorings (tomato, bullion, cheese, onion, garlic, etc.) that will give your foods different tastes and textures. Eating the same thing day after day is boring and tedious. Take this into consideration.
- **Extended staples:** Collect dehydrated and freeze-dried, store-bought and homemade canned goods. Don't

forget cooking oil, shortening, baking powder, soda, yeast, powdered eggs and milk.

- **Vitamins:** Vitamins are important, as your diet may not contain all the vitamins and minerals you need. Buy generic rather than name brand to cut costs.
- **Quick and easy psychological foods:** Quick and easy foods help you through the tough times when you are psychologically or physically unable to prepare a meal from your staple items. These include freeze-dried or MREs, which are simple to prepare. Treats can be as simple as Jell-O®, instant pudding, or a candy bar and these should be in your survival kit.
- **Balance:** If you are buying a little at a time, don't buy a year's worth of one item—rice for instance—and then wait a while before buying a year's worth of something else. This could leave you with one-dimensional meals if a crisis occurs before you buy all your items.
- **Containers:** Always store your non-canned bulk foods in food storage containers. If you are using

plastic buckets, make sure they are lined with food grade plastic. Don't use trash can liners as these contain pesticides. Don't stack your containers too high, as they could fall and break open.

- **Use your storage:** Eat the items in your stockpile. This serves two purposes. One, it helps your body adjust to the diet you will be eating if a crisis comes. Sometimes the body doesn't react well to a drastic change in diet. Secondly, it encourages you to rotate your food.

How Much Food to Store?

You can never have too much food set aside for a crisis because you can't know ahead of time what the crisis will be or how long it will last. Will a three-day supply be enough? One week? A month? Three? A year?

You hope it doesn't last long but you never know. So it's best to start small and work from there. And start with a definite plan.

There are several things to consider. How many are in your family? How many additional people would you bring under your roof (or tent)? What is the nature of the crisis—natural disaster, terrorist attack, economic collapse, or fuel shortage?

Let's start with a three-day supply. If you are feeding a family of four for three days you will need to plan on three breakfast meals, three lunches and three dinners. You know how much your family eats so take that into consideration as you plan

Your first several days will probably be spent eating the things in your refrigerator, freezer and pantry. The things that require cold temperatures to preserve should be eaten first if

the power is off. Even it's not off yet, take into consideration the type of emergency and whether you think the power may fail soon. Then you'll know whether you should first consume the food that will spoil soonest.

Surviving Long Term

To prepare for a long-term situation where your emergency stores could run out, you need to know how to hunt, gather and plant in your area.

Hunting

For hunting you should have a .22 cal. rifle for shooting small game, a shotgun and a large caliber rifle like a .308 or a .30-06.

Ideal ammunition for the .22 would be both .22 long rifle and .22 shorts. The shorts are sufficient for killing small game like squirrels and small rodents, and make a soft report when fired. This often gives you the opportunity to take multiple shots, if you miss, before the prey is frightened off. The .22 long rifle would be better suited for shooting larger game like opossums and raccoons.

The shotgun can be loaded with bird shot for shooting birds, larger shot like #4 for squirrels or rabbits, or buck shot for shooting deer or, if necessary, to ward off predators. The large caliber rifle will also kill deer, and can be used for protection as well.

Of course, squirrels, rabbits and deer readily come to mind when considering what to bag for edible game. But the truth is most any mammal, bird, or reptile is nutritional and any prejudices about eating things like opossum, raccoons, snakes, frogs and turtles—or even cats, dogs, or horses—can be overcome when the belly is empty and need is great.

A word of caution, however; avoid box turtles and toads as they can contain toxins that can make your sick.

Fishing

Fish is an excellent source of protein and is easily caught with the right equipment. Again, preparation is the key. A rod and reel with a supply of lures, hooks, lead weights, and floats will make your fishing trip more productive.

When you need live bait you can dig earthworms, or catch crickets, grasshoppers, or caterpillars. These are easy to find in the warm months, but become more difficult when the weather turns cold.

You can also set up trot lines, which will probably be a more productive use of your time. Trot lines can consist of nothing more than a long cord that runs across a stream, river, or slough in a lake. The line can contain a number of hooks on separate lines dangling from the main cord. Just bait each hook, leave it for several hours and return. You will likely catch a lot of catfish, some turtles, and a few other species of fish, depending on your location.

If you are fishing a large body of water, tie one end to a tree or other structure and anchor the other end in the water with a brick or something else heavy to weigh it down.

Jug fishing is another great way to catch catfish in large bodies of water. Simply tie a line to a jug (a plastic milk jug is ideal) with a weight at the other end. Attach a small line with a hook about a foot above the weight, and another line with hook one to two feet above that. Bait the hooks and drop the jugs in the water.

If you set out several with different line lengths and different baits you can determine which combination

produces the best results and increase you catch.

Foraging

Foraging your area for edible wild plants is a great way to give your diet variety. Different areas support different plants, so providing an exhaustive list in this venue is impossible. However, following are some plants found throughout most of the continental United States:

- **Asparagus—**In the spring it resembles a cluster of green fingers. Mature plants have fernlike foliage and red berries. Best to eat the young stems before leaves form. Steam or boil them as diarrhea or nausea can occur when eaten raw.
- **Bearberry or kinnikinnick—**Berries are edible raw or cooked. Tea can be made from young leaves.
- **Beech—**Mature beechnuts are an excellent survival food because of the kernal's high oil content. Break the thin shell and eat the white meat inside. Nuts can also be roasted then pulverized and used to make coffee by boiling or steeping.
- **Blackberry and raspberry—**The fruits and peeled young shoots are both edible and tasty.
- **Blueberry and huckleberry—**The fruits are edible raw.
- **Cattail—**Eat the young, tender shoots raw or cooked. The rhizome can be pounded to remove the starch and used as a flour. When young and still green the female portion can be boiled and eaten like corn on the cob.
- **Chicory—**All parts are edible. Can be eaten as a salad, or boiled to use as a vegetable. Roots can be roasted and made into a coffee substitute by pounding them

into powder and boiling.

- **Cranberry—**Berries can be eaten raw, or boiled in a small amount of water and sugar and turned into a jelly.
- **Dandelion—**All parts are edible. The leaves can be eaten raw or cooked. The roots can be boiled and eaten as a vegetable. Roasted, the roots make a good coffee substitute.
- **Daylily—**Young green leaves and tubers are edible raw or cooked.
- **Duchesnea, wild or Indian strawberry—**The fruit is edible.
- **Elderberry—**Eat the flowers and fruits. Soak the leaves in water for eight hours, discard the leaves and you have an excellent drink.
- **Hackberry—**The fruit is edible when it falls from the tree after ripening.
- **Hazelnut or wild filbert—**The nuts are edible when mature in autumn.
- **Junipers—**Eat the berries and twigs. Roast the seeds for a coffee substitute.
- **Marsh marigold—**All parts are edible after boiling.
- **Mullberry—**The fruit is edible raw, cooked, or dried.
- **Nettle—**Eat young shoots and leaves. The plants have stingers, so it should be picked wearing gloves and boiled for 10 to 15 minutes to remove the stingers. Mature stems can be separated and woven into string or twine.
- **Oak—**All parts are edible but some parts are bitter. The acorns should be soaked in water for two days to remover the bitterness. They can then be boiled or ground into flour or roasted and used as a coffee substitute.

- **Persimmon—**The leaves are edible raw, or they can be dried and made into tea. The fruits are edible raw or baked.
- **Pine—**Seeds can be eaten raw or cooked. The bark of young twigs is edible. The inner bark of young twigs can be chewed. The green needles can be made into tea.
- **Sassafras—**The young twigs and leaves are edible fresh or dried, and can be added to soups. Dig up the roots and underground stem, peel off the bark and let it dry, then boil in water to make sassafras tea.
- **Sheep sorrel—**The plants are edible raw or cooked.
- **Strawberry—**The fruit is edible fresh, cooked, or dried. The leaves can be dried and made into tea.
- **Water lily—**Flowers, seeds and rhizomes are edible raw or cooked.
- **Wild crabapple or wild apple—**The fruit can be prepared like cultivated apples, or eaten raw when ripe or cut into slices and dried.
- **Wild fig—**The fruit is edible raw or cooked.
- **Wild onion—**The bulbs and young leaves are edible raw or cooked and can be used to flavor meats or soups.
- **Wild garlic—**The bulbs and young leaves are edible raw or cooked and can be used to flavor meats or soups.
- **Wild rose—**The flowers and buds are edible raw and boiled. Fresh young leaves can be boiled in water to make tea.

For a better idea of edible plants in your region you should buy a book from a local book store or online book store. The books will have the added advantage of color

photographs to help you identify the plants.

Planting a Garden

If you are faced with a long-term food-shortage situation, growing your own will be your best bet. To do that you will need some basic tools and supplies.

Tilling the ground without a tractor and the right accessories will make the process difficult. However, our forefathers did it, and you can too if it means survival.

If you live in a rural area you probably have a neighbor with a tractor and farm implements. You could pool your resources, labor and land and have a nice farm. If not, perhaps your neighbor has a horse that could be put to use dragging a plough to help till your soil or, again, work together to make a larger plot.

If not, whether you live in an urban or rural setting, you'll have to resort to using a shovel, hoe and garden rake to till your ground. This is going to require labor on your part, but the rewards will be food for you and your family as well as something with which you can barter later on.

Be sure you have on hand seed packs for the vegetables you plan to grow. And be sure the vegetables are those your family will eat. Some of the most nutritious and easiest to grow are greens, tomatoes, squash and beans. They don't require large plots and are generally easy to manage. They can also be incorporated into your meals in many ways.

Be sure the seeds you buy are the non-hybrid variety, as they will produce seeds for use the next year. If you are saving the seeds until the crisis comes, as opposed to starting your garden now, the seeds should be sealed in cans. They can be purchased already sealed from outlets specializing in survival gear and foods.

These will last four to five years if kept at a temperature of 75° F. or less. Seeds can also be kept in the refrigerator or freezer to extend their shelf life.

Your garden plot should be in a location that receives six to eight hours of sun per day, and have a water source close by. Vegetables require one inch of water per week.

The soil should be loamy, well-drained and contain a lot of organic matter. Absent that, you are going to need fertilizer to help your plants grow. A good, balanced 10-10-10 fertilizer will work in most instances if you are unsure of your soil's condition.

You can start preparing your garden spot ahead of time if it's not near growing season. If that's the case, work compost material into the soil so it can be improving the

soil quality prior to growing season.

When preparing your plot, be sure you break up the soil as much as possible and work in any fertilizer well. Plant the seeds according to package directions for your area (there will be a map divided into growing zones on the package) that gives you the optimum time of year for planting.

When food and water are scarce, having something on hand with which to barter—whether it's precious metal, fresh produce, or tools—will be as essential to your survival as a storage of food and water. And knowing how to grow your own food and locate food and water will also help ensure your survival. Remember, preparedness is the key. As someone once said, "Good luck happens when preparedness meets opportunity."

CHAPTER 3

How to Survive Without Doctors or Hospitals

When Hurricane Katrina struck Louisiana on August 29, 2005, it appeared at first that New Orleans had been spared a terrible blow. The storm had weakened from its peak and jogged a little north, thus saving New Orleans a direct hit. But over the next few hours torrential rains and the hours-long battering took their toll on the city's levee system and flood waters began to rise.

Before long the city had degenerated into chaos, emergency responders were unable to reach all who needed help, hospitals began to take on water and people were left to their own devices. As bad as it was for the general public, those who found themselves stranded in some of the region's hospitals had it much worse.

According to the report, *After Katrina: Hospitals in Hurricane Katrina* by The Urban Institute, hospitals experienced power and communication failures because of the high winds, and flooding prevented the resupply of essentials such as drugs, blood, linens and food.

The 11 hospitals surrounded by flood waters after the storm housed 1,749 patients, according to the Louisiana Hospital Association. But in addition to patients, more than 7,600 additional people—hospital staff, patients' families and thousands more seeking refuge from the storm—and

hundreds of pets were trapped inside the hospitals by flood waters.

Sweltering heat (temperatures exceeded 100º F inside the buildings), lack of supplies, inoperability of essential equipment, and the inability to transport critically ill patients led to the deaths of many, and as morgues became filled, bodies began to be stacked in stairwells. The local healthcare system was in chaos.

Additionally, many of the area's healthcare workers (not on duty at the time of the storm) evacuated to other areas to be with and care for their own families. This left more than a million residents without medical care.

To compound the problem, the Federal Government's National Disaster Medical System (NDMS) proved insufficient to pick up the slack. Even though NDMS teams came from across the nation to assist in the medical care, the number of patients overwhelmed the healthcare providers—one day they treated about 15,000 patients—reducing them to giving only basic care.

The *Biosecurity and Bioterrorism: Biodefense Strategy, Practice, and Science* newsletter post-Katrina report stated:

> "One DMAT physician recalled that all that could be done was to 'provide the barest amount of comfort care.' He said, 'We practiced medical triage at its most basic, black-tagging the sickest people and [moving] them [away] from the masses so that they could die in a separate area.' The teams ran out of the most fundamental supplies and medications, including ventilators..."

In the aftermath, criminal charges against three hospital workers were filed—later dropped when a grand jury failed to return an indictment—alleging they deliberately killed elderly patients with narcotics because of the horrible conditions they faced.

Preparing for Life Without Doctors

The breakdown of the healthcare system in Louisiana is a shot across the bow of all Americans. It shows what can happen in a large-scale catastrophe, even though healthcare professionals are constantly being trained to handle emergencies of all kinds. Whether it's natural—as in the case of Katrina—or the result of a terrorist act—nuclear, biological, or chemical attack—the nation's healthcare system is not adequately prepared to deal with large-scale crises.

So with the system unable to guarantee proper care, it's up to each individual to take the steps necessary to ensure adequate care for himself and his family. To do this one should begin by creating a medical supply kit.

Stocking a Medical Supply Kit

The kit should be sufficiently stocked to handle a short-duration—say three days to a week—medical emergency first. You should prepare it with the mindset that in the event of a major crisis you are going to be on your own in dealing with any medical emergencies.

The New York City Fire Department recommends you have the following in your first aid kit for immediate response to injury:

- **Acetaminophen, Ibuprofen and aspirin tablets—** for headaches, pain, fever, and simple sprains or strains. (Aspirin should not be used for relief of flu symptoms or given to children.)
- **Ipecac syrup and activated charcoal—** for treatment after ingestion of certain poisons
- **Anti-bacterial soap**
- **Elastic Wrap—** for wrapping wrist, ankle, knee, and

elbow injuries

- **Triangular Bandages —** for wrapping injuries and making an arm sling
- **Scissors with rounded tips**
- **Adhesive tape and 2" gauze —** for dressing wounds
- **Disposable, instant ice bags —** for icing injuries and treating high fevers
- **Bandages of assorted sizes —** for covering minor cuts and scrapes
- **Antibiotic ointment —** for minor burns, cuts and scrapes
- **Gauze —** in rolls and in 2" and 4" pads—for dressing wounds
- **Bandage Closures —** 1/4" and 1"—for taping cut edges together.
- **Tweezers —** to remove small splinters and ticks

- **Safety pins —** to fasten bandages
- **Sterile gloves —** to protect yourself and reduce the risk of infection when treating open wounds
- **Thermometer —** be sure to include a rectal or tympanic for children
- **Lidocaine —** local anesthetic
- **Antihistimine**
- **First Aid Manual**

These items should help you to deal with the most common emergencies in the short term. However, accidents happen, and the likelihood of serious accidents increases in periods of crisis.

Preparing for a Serious Medical Emergency

In order to be properly prepared for a long-term emergency, it would be a good idea to take a first aid course like that offered by the American Red Cross or a college first-responder course. In addition to helping train you to remain cool during a medical emergency, such a course would help you understand basic anatomy and provide an expansion of your ability to deal with a healthcare emergency.

Following completion of such a course, your emergency medical kit would need to be expanded as well. This will provide you with the equipment needed to help you put your increased knowledge to work. In addition to the small kit items, your long-term medical emergency kit should contain:

- **A medical dictionary and a basic medical textbook (a suggested list follows)**
- **Petroleum gauze**
- **Plastic bags**

- **Elastoplast dressing**
- **Tincture of Benzoin**
- **Tincture of Iodine**
- **Cotton-tipped swabs**
- **Oropharyngeal airways**
- **Resuscitation face mask with one-way valve**
- **Blood pressure cuff**
- **Stethoscope**
- **Otoscope**
- **Small flashlight**
- **Space blanket**
- **Air splints**
- **Plaster of paris (or fiberglass) roller bandages**
- **Pregnancy test kits**
- **Sterile and unsterile latex gloves**
- **Scrub suits**
- **Eye patches**
- **Suture materials and needles**
- **Snake bite kit**
- **Antibiotic ear drops**
- **Antibiotic cream—**Neosporin® or something similar

You may also want to consider compiling a surgical kit. This should contain:

- **Mayo and Metzenbaum scissors**
- **Dissecting forceps**
- **Small curved clamps**
- **Large curved clamps**

- **Disposable scalpels**
- **Emergency obstetric kit**
- **Lift out forceps**
- **Small bone saw**

Most of these items are available at your local pharmacy, while others are available from medical supply stores. Almost everything on the list can be purchased online. A Google or Yahoo search is a simple way to find items not readily available at the pharmacy or supply store.

Test Kits

Some other items that you should consider adding to your expanded emergency medical supply are test kits of various types. These kits can save you from experiencing some health problems, as in the case of a water or carbon monoxide test kit, or determine whether you have been exposed to harmful chemicals.

Kits to consider are:

- **Water test kit —** such a kit would be invaluable if society broke to down to such an extent that water no longer flowed to your home and you had to seek water elsewhere.
- **Carbon monoxide —** if you are confined to a small space and need to use a heater a carbon monoxide test kit can save you from serious health problems or death.
- **Hazardous chemical test kit —** can detect Nerve G, Blister H and Nerve V in liquid or vapor form at very minute levels in a matter of seconds.
- **Blood type —** if you find yourself with a patient in need of a blood transfusion a blood type kit will

prevent you from using a donor with incompatible blood.

- **Urine test kit —** a urine test can detect the presence of protein, glucose, ketones, nitrates, red blood cells and white blood cells. This will help with the diagnosis of urinary infections, toxaemia in pregnancy, dehydration, diabetes (outside pregnancy) and renal stones.
- **Blood glucose test kit —** can assist with diagnosing diabetes, both generally and during pregnancy.
- **Gram staining —** can help in the identification of bacteria in body fluids. It requires the use of a microscope and chemical solutions.
- **Radiation detection —** radiation detection kits and Geiger counters are available at survival stores and online outlets. Such a kit is crucial in the event of a nuclear attack as it will warn you before levels become too high if you are outside, and let you know when it safe to leave your shelter.

Dealing with Dehydration

One of the greatest dangers to people in survival situations, especially in the summer in warmer climates, is of dehydration. While working to overcome a new hardship it's easy for someone to overexert and become overheated. Also, people can easily be exposed to contaminated water or improperly prepared or spoiled food—which could cause diarrhea or vomiting—in a survival situation.

Of course, the easiest way for a healthy person to avoid dehydration is to drink plenty of liquids before and during strenuous activities. But severe diarrhea can also cause dehydration so you should be prepared to deal with this deadly condition.

The young and the elderly are especially susceptible to dehydration. The young are more susceptible because they don't know how to properly hydrate themselves, and, when sick, often refuse food or drink. The elderly are susceptible because they don't drink as much as younger people have reduced kidney function, suffer incontinence, or simply have difficulty relieving themselves.

Look for these signs if you suspect a person is dehydrated:

- **Thirsty**
- **Dry mouth or sticky saliva**
- **Dry skin**
- **Skin flushing**
- **Dark colored urine**
- **Fatigue or weakness**
- **Chills**
- **Head rushes**

A person showing these signs are in the early stages of dehydration and have lost about 2 percent of their total body fluids. This person should be kept in a cool area away from the sun, if possible. He should be given plenty of non-caffeinated fluids (preferably water or a sports drink). The fluids should be taken in small sips.

In more severe cases of dehydration a person may experience:

- **Increased heart rate**
- **Increased respiration**
- **Decreased sweating**
- **Decreased urination**
- **Increased body temperature**

- **Extreme fatigue**
- **Muscle cramps**
- **Headaches**
- **Nausea**
- **Tingling of the limbs**

A person experiencing dehydration this severe should receive I.V. fluids to quickly replenish the electrolytes that are lost, and every effort should be made to get the person still, quiet and cool. If an I.V. is not available, sports drinks or Pedialite® should be given, again, taken in small sips. Sports drinks and Pedialite® are better than water because they contain electrolytes. Electrolytes are important because their loss can interfere with the chemical reactions needed for healthy cell operation. If no sports drinks are available, slowly administer water and, once symptoms have subsided, give the patient a salty snack or light meal.

In the most serious cases of dehydration a person has lost about 10 percent of his fluids. Emergency help is needed immediately. Symptoms of severe dehydration include:

- **Muscle spasms**
- **Vomiting**
- **Racing pulse**
- **Shriveled skin**
- **Dim vision**
- **Painful urination**
- **Confusion**
- **Difficulty breathing**
- **Seizures**
- **Chest and abdominal pain**
- **Unconsciousness**

Again, an immediate I.V. and the best available medical care is needed in situations like this.

The Mayo Clinic has a recipe for an oral rehydration solution that it recommends in an emergency situation where a pre-formulated solution is unavailable.

Mix 1/2 teaspoon salt, 1/2 teaspoon baking soda, 3 tablespoons sugar and 1 liter (about 1 quart) of safe drinking water. Be careful in your measurements because incorrect amounts can make the solution less effective or even harmful. If possible, have someone else check your measurements for accuracy.

If the victim is vomiting, the Mayo Clinic recommends giving small amounts of the solution at frequent intervals.

If you don't have the equipment necessary to give I.V. fluids and the person is in shock, unconscious, or severely dehydrated, you can still administer fluids in a hurry. It can be done rectally.

However, this method will obviously not work if the cause of the problem is severe diarrhea. To administer rectal hydration, place the victim on his side with the buttocks raised on two pillows. A lubricated plastic tube with a blunt end (a large urinary catheter or naso gastric tube is ideal) should be passed through the anus into the rectum to a depth of about nine inches. It should pass with minimal pressure and should not be forced so as to avoid perforating the bowel.

Tape the tube to the skin. A longer piece of tubing and a drip bag or funnel should be attached to the end and elevated. Slowly drip 200 mls. of fluid over a period of 15 to 20 minutes. The catheter should then be clamped. This can be repeated every four hours with another 200 mls. Up to 1,000-1,200 mls. per 24-hour time frame can be

administered this way. If 200 mls. is tolerated, the volume can be increased slightly or the time between intervals can be reduced to three or three and a half hours.

If overflow occurs the volume should be reduced. A rectum full of feces does not absorb water very well, so the amounts may need to be reduced, but given more frequently.

Increasing your Medical Knowledge

No medical survival kit is complete without a good book or two on emergency medicine, anatomy, drug reference and medical terminology. Some good ones to choose from are:

- **Emergency Care in the Streets,** by Nancy Caroline
- **Ditch Medicine,** by Hugh L. Coffee
- **Mosby's Paramedic Textbook,** by Mick J. Sanders, MSA, EMT-P
- **Dorland's Illustrated Medical Dictionary,** by W.A. Newman Dorland
- **Mosby's Medical Dictionary,** by Kenneth N. Anderson
- **Oxford Handbook of Clinical Medicine** by Murray Longmore
- **Wilderness Medicine, Beyond First Aid,** by William Forgey
- **Do-It-Yourself Medicine,** by Ragnar Benson

Some of these take you step-by-step through many surgical and health care procedures.

Technology has helped with this as well. Now, much of this information is available on CD-ROM or DVD, which gives you a moving visual rather than text and a static photograph or drawing. Some good ones are:

- **21st Century Emergency War Surgery** and the

Essential Collection of Military Medical Textbooks, by the Department of Defense. On CD-ROM

- **Ditch Medicine,** by Hugh L. Coffee. On DVD

All of the above books and videos are available at Amazon.com, and many of the books can be found in book stores.

There are also some videos online that are available for viewing or download that can help in an emergency situation. A Google search of the term, "What to do in medical emergencies," turns up videos on CPR, helping a choking victim, dealing with dislocations, setting broken bones, stopping bleeding and helping a heart attack victim, among others.

The good news is, with a little medical training, good reference books, basic medical equipment and a few different drugs (analgesics and antibiotics) about nine out of ten medical emergencies can be dealt with satisfactorily.

For example, typical treatment for a broken leg would be administration of a general anesthetic and the setting of the bone—or, if needed, an operation to insert a pin—and administration of a cast.

But, a person can be treated without the operation in an emergency situation and still retain the use of the leg. The patient can take an analgesic and the bone can be set and splinted until it's healed. He or she may thereafter walk with a limp, but the leg will still be functional.

Acquiring Prescription Medications

While most of the medical equipment is relatively easy to come by, acquiring medications are another matter. First, they can be very expensive. Second, many require a prescription, and physicians are loath to prescribe

medicines for people who aren't sick.

However, if you try to coax medications out of your family doctor you may be successful. A word of advice: Be prepared to discuss the use of the medications and be honest with him about your reason. If you try to fool him he will catch on, and not only will you not receive any of the medications you want, you may fracture your relationship with your doctor.

Tell the doctor you are trying to prepare for a disaster situation and want to have some basic medications available. Know what the medicines do that you are asking for. If you are able to get some medicines from your doctor you should return them when they reach their expiration date. This will assure the doctor you are not abusing the medication.

Some medicines that require a prescription in the U.S. are available over the counter in other countries.

Some medications designed for animals are actually the same as those used to treat similar diseases in humans, and they often cost less. Some of the books mentioned previously outline what veterinary medicines are suitable for human use.

Understanding the Cause of Illness

An understanding of the bacteria that cause disease is necessary if you are to prescribe antibiotic treatment. While there are hundreds of bacteria, there are relatively few that cause most of the problems in people. They can be classified into four classes: Gram positive, gram negative, anaerobes and others.

Gram positive bacteria include:

- **Staphylococcus —** causes boils, abscesses, impetigo, wound infections, bone infections, pneumonia, food

poisoning and septicaemia.

- **Streptococcus —** causes Strep pneumoniae and the Strep pyogenes. Strep pneumoniae causes pneumonia, ear infections, sinusitis, meningitis, septic arthritis and bone infections. Strep pyogenes causes sore throats, impetigo, scarlet fever, cellulitis, septicaemia and necrotising fasciitis.

Gram negative bacteria include:

- **Neisseria meningitides —** causes bacterial meningitis and may also cause pneumonia and septicaemia. Can be rapidly fatal.
- **Neisseria gonorrhoeae —** causes gonorrhea.
- **Moxella catarrhalis —** causes ear and sinus infections, also chronic bronchitis exacerbations.
- **Haemophilus influenza —** causes meningitis (especially in children under age five), epiglottis, cellulitis and a sub group cause chest infections.
- **Escherichia coli —** causes urinary infections, severe gastroenteritis, peritonitis (from bowel injury) and septicaemia.
- **Proteus sp. —** causes urinary tract infections (UTIs), peritonitis (from bowel injuries) and wound infections.

Anaerobes include:

- **Bacteroides sp. —** causes infections following injury to the bowel or in wound contamination and causes abscess formation.
- **Clostridium sp. —** produces spores and toxins.
- **C. perfringens/C.septicum —** causes gangrene.
- **C.tetani or tetanus —** in tetanus and botulism, the damage is from toxins, not the bacteria themselves.
- **C. botulinum —** causes botulism.
- **C. difficille —** causes diarrhea following antibiotics.

Bacteria that fall into the "other" category include:

- **Chlamydia sp. (C. pneumonia) —** causes a type of atypical pneumonia.
- **C.trachomatis —** causes the sexually transmitted disease chlamydia.
- **Mycoplasma pneumoniae —** causes atypical pneumonia.

The list of antibiotics and the bacteria they treat most effectively is:

- **Penicillin —** for Streptococcal infections, pneumococcal infections, anaerobic infections "above the diaphragm" such as abscessed teeth. This drug is relatively cheap and causes fewer side effects such as diarrhea and vaginitis. Unfortunately, streptococci and pneumococci are increasingly antibiotic resistant.
- **Ampicillin or Amoxicillin —** for urinary, middle ear and lower respiratory infection. This is broader spectrum penicillin. Staphylococci are usually resistant. Is also available in suspension for children who cannot swallow amoxicillin capsules.

- **Erythromycin ethylsuccinate —** for pneumonia or Streptococcal sore throat. It is also of some benefit in Staphylococcal skin infections.
- **Tetracycline —** for plague and various other insect-born infections; urinary infections; bronchitis; infected animal bites; some venereal diseases; and Rocky Mountain spotted fever. Pregnant women and young children should avoid using this drug, if possible. A more expensive drug in this class is doxycycline. Doxycycline has fewer gastrointestinal side effects and is better absorbed than tetracycline with food in the stomach, but is more likely to sensitize the skin to sunlight.
- **Metronidazole —** very effective against certain protozoans including amoebae and Giardia, and for anaerobic bacteria such as those that normally inhabit the bowel and the female genital tract. It can be extremely useful in intra-abdominal, pelvic, and wound infections caused by such bacteria.
- **Chloramphenicol —** for anaerobic infections; typhoid and other Salmonella infections; psittacosis; rickettsial infections; or meningitis due to Hemophilus or Meningococcus. This drug is very well absorbed from the gastrointestinal tract and penetrates well into the cerebrospinal fluid (hence its value in meningitis). However, it causes fatal aplastic anemia in about one in 50,000 persons treated with it, and some drug companies have stopped manufacturing it.
- **Trimethoprim-sulfamethoxazole DS (Bactrim, Septra) —** for urinary infections and some types of bacterial diarrhea, or as a back-up drug for sinusitis, bronchitis and ear infections (for resistant organisms or allergic patients).

Some other drugs to have on hand—if you can get them—and their uses are:

- **Adrenalin —** to treat acute anaphylaxis or other allergies such as a bee sting, or for a severe asthma attack.
- **Prednisone —** for severe cases of asthma, poison ivy, sunburn and allergic reactions, but is not a substitute for epinephrine because the response is not fast enough. Use with great caution because steroids depress the immune response, among other side effects; however, the drug can be life-saving.
- **Theophylline preparation —** for asthma. Combinations with ephedrine (such as Theodrine), while out of favor these days, may be much cheaper. Theophylline is being used much less often. Tea contains a little theophylline.
- **Prochlorperazine —** for nausea and vomiting, this drug also may be of some value in acute psychosis.
- **Phenobarbitol —** as a sedative. CAUTION: Barbiturate addiction is very dangerous; fatal withdrawal reactions have occurred.
- **Xylocaine 1 percent or 2 percent —** as a local anesthesia.
- **Acetaminophen with codeine —** as a pain reliever in combination with acetaminophen (or aspirin). It also relieves severe cough.
- **Proparicaine ophthalmic solution 0.5 percent —** will anesthetize the cornea of a patient with a foreign body in his eye. *Use only once to enable you to remove the foreign body. Continued use may allow severe damage to the eye to occur without the patient's awareness.*

- **Nalbuphine hydrochloride —** for relief of severe pain. This drug is considered to have less potential for abuse than morphine because it is also a narcotic antagonist (that is, it will cause acute withdrawal in an addict).
- **Hydrochlorthiazide —** helps to control high blood pressure or congestive heart failure.
- **Nitroglycerin —** helps to relieve angina (heart pain).
- **Lanoxin (digoxin) —** good for certain cardiac conditions such as congestive heart failure or atrial fibrillation with rapid heart rate.
- **Atropine 0.5 mg/cc (30 cc) —** because it speeds the heart rate, this drug is useful in some heart attack victims if they have a profound decrease in pulse. More importantly, it is an antidote to many poisons (such as organophosphate insecticides, some poisonous mushrooms and chemical warfare agents such as tabun and sarin).

And don't forget the medicines you or your family take every day. You should have a year's supply of any prescription drug needed. Rotate each year. This is especially important for drugs with a short shelf life, such as insulin. (Insulin lasts about six months at room temperature, but for only two to six weeks at 80° F.)

Immunizations, especially tetanus, should always be kept current. Tetanus toxoid should be given every ten years. For dirty wounds, a booster may be given if the last dose was more than five years prior to the injury.

Finally, don't forget to have a good supply of common, everyday over-the-counter medications like aspirin or Ibuprofen for fever and pain relief, Kaopectate for diarrhea, Pepto Bismol® or Mylanta® for stomach maladies, diphenhydramine for insect

bites and allergic reactions, cortisone cream for insect bites and skin allergies, and antihistamines for respiratory allergies.

Colloidal Silver

Until the beginning of the development of modern antibiotics in the 1940s, colloidal silver was the natural antibiotic of choice and had been for 50 years. Pharmaceutical antibiotics looked like miracles because, in the beginning, there were no antibiotic resistant strains of disease organisms. There was a lot of excitement over the new wonder drugs. So naturally, colloidal silver disappeared into the memory hole.

But as there are more and more resistant strains to antibiotics, colloidal silver is reappearing. There is no doubt about the anti-bacterial and anti-microbial properties of colloidal silver. It is very effective against bacterial infections like Strep throat, flu and fungal infections like Candida.

Germs can't escape colloidal silver no matter how much they mutate. And colloidal silver doesn't harm good bacteria. There are no known risks to using colloidal silver internally or externally.

Dental Emergencies

An often overlooked issue when preparing an emergency kit is dental care. Face it: If you've ever had a toothache you know how painful it can be. Just think how bad it would be if you have to deal with a toothache or cavity without the prospect of professional dental care.

There are dental emergency kits available for sale online. You can also compile your own. You would need:

- **Oil of cloves**

- **Zinc oxide paste**
- **Dental mirror**
- **Sharp probe**
- **Compactor**
- **Extraction forceps**
- **Excavator double ended, Guy's pattern**
- **Filling paste inserter**
- **Dental mirror size 4**
- **Cavit tube (temp filling inserte**r)

Supplements, Herbs and Natural Medicines

Vitamin supplements for all members of the family will be very beneficial if you find yourself in a crisis situation and eating a limited diet. And supplements will help with dealing with the stress such a crisis creates.

One stress reducer is **Valerian,** a natural relaxer that helps both physically and mentally. It is a herb and is promoted as a mild sedative and sleep aid.

Chromium Picolinate, a naturally-occurring mineral found in trace amounts in everyday foods like red meat, fish, poultry and whole grains, will keep your blood sugar level—if affected by stress, over-exertion and poor nutrition—on an even keel.

Some other natural remedies are: **Tea tree essential oil,** an anti-fungal and anti-bacterial agent that will treat athlete's foot, lice and infections of the skin, nails and scalp; **natural apple cider vinegar and honey** for abdominal problems; and **cranberry juice** for cure and prevention of bladder infections.

There are a number of medicinal herbs and plants available

that treat a whole host of problems. Some of these grow wild in many parts of North America. But it would be easier to add them to your vegetable garden to have on hand when needed rather than having to forage for them in an emergency. Recommended medicinal herbs and plants are:

- **Bee Balm —** used by American Indians. Can be an antiseptic, carminative, diaphoretic, diuretic and stimulant. It was used to treat colds, headaches and gastric disorders. Grows wild in eastern North America from British Columbia to Georgia, and also in Mexico.
- **Boneset —** used by American Indians as a stimulant, fever reducer and laxative. Found throughout North America.
- **Cayenne Pepper —** used to treat colds and sore throats.
- **Echinacea —** also called Goldenseal, was used by American Indians to cure many ailments including snake bites, rabies, toothaches, sore throats, colds, venereal disease, smallpox, chicken pox and eye infections. Grows wild throughout North America.
- **Jewelweed —** used by American Indians to treat skin rashes including poison ivy and poison oak. Grows in eastern North America from Canada to Florida.
- **Peppermint —** useful in relieving indigestion, nausea and internal gas. Peppermint tea is recommended for headaches and can be used as a mild sedative.
- **Rosemary —** can be used as a tonic and stimulant and to treat digestive disorders and headaches.
- **Sage —** at one time or another has been offered as a cure for just about anything. It is especially useful in treating cold symptoms and relieving sore throat pain and for canker sores.
- **St. Johns Wort —** imported to North America by

Europeans, it is used for its antibiotic and anti-inflammatory properties. It now grows wild in much of North America.

- **Stinging Nettle —** when properly prepared can be used as a tea, is edible and can treat bronchial conditions and infections. It should be picked wearing gloves to avoid the sting. Stings can be treated with jewelweed.
- **Thyme —** considered one of nature's most powerful antiseptics. It is used in toothpastes and mouthwashes, as an expectorant and cough suppressant. Can be brewed in tea and is a gargle for sore throats.

Other remedies which can be found in nature include:

- **Acorns —** cracked and boiled in water, they can be used to treat poison ivy and poison oak.
- **Dandelion —** it grows wild in many a lawn, can be used in a salad, or used to make wine. It also is a mild laxative, an appetite stimulant and a diuretic.
- **Honey —** can be used as an antibacterial agent.

Being Medically Prepared in the Event of Nuclear Attack

A possible option for terrorists is a direct attack on a U.S. nuclear power plant or a vehicle transporting nuclear waste from a power plant, causing the leakage of large amounts of radioactive materials into the atmosphere. While such an attack isn't likely to cause high numbers of immediate casualties, people in the immediate area, or downwind and exposed to the radiation cloud could experience radiation poisoning and long-term illnesses' like cancer.

If a radiological device was set off, or a nuclear plant attacked, the first 48 hours of fallout are the worst. Radioactive

particles will fall out of the atmosphere. When atomic weapons were exploded in Japan, most of the people died not from the initial thermonuclear explosion, but of exposure to the radioactive particles in the aftermath.

However the radioactive energy can penetrate walls, clothing and almost everything else, and the deadliest particles (gamma radiation) can travel up to a mile from ground zero and can penetrate buildings. So you need to put as much between you and the outside as possible. You should have a safe room prepared ahead of time. The more mass you put between yourself and the outside, the more radiation will be absorbed before it reaches you. If there is time you should shield your room with mattresses, blankets, plywood, sheetrock and whatever else you have on hand.

According to the CDC, in a nuclear event, radioactive iodine released into the air can be breathed into the lungs, or contaminate food or water. When radioactive materials get into the body through breathing, eating or drinking, internal contamination has occurred.

In the case of internal contamination with radioactive iodine, the thyroid gland quickly absorbs this chemical. Radioactive iodine absorbed by the thyroid can then injure the gland. Because non-radioactive **Potassium iodide (KI)** acts to block radioactive iodine from being taken into the thyroid gland, it can help protect this gland from injury.

While KI cannot prevent iodine from entering the body, it can protect the thyroid from absorbing radioactive iodine. KI cannot reverse the health effects caused by radioactive iodine once damage to the thyroid has occurred. KI cannot protect the body from radioactive elements other than radioactive iodine—if radioactive iodine is not present, taking KI is not protective.

The thyroid gland cannot tell the difference between stable and radioactive iodine and will absorb both. KI works by

blocking radioactive iodine from entering the thyroid because KI contains so much stable iodine, the thyroid gland becomes "full" and cannot absorb any more iodine—either stable or radioactive—for the next 24 hours.

Since radioactive energy dissipates to 1/100th of its initial strength after 48 hours, you would need to have on hand enough KI to protect you and your family for that long.

Iodized table salt also contains iodine; iodized table salt contains enough iodine to keep most people healthy under normal conditions. However, table salt does not contain enough iodine to block radioactive iodine from getting into your thyroid gland. You should not use table salt as a substitute for KI.

The World Health Organization (WHO) recommends using **RAD BLOCK**™ as your source of KI to protect yourself in a radiological attack. It would be a good item to add to your medical survival kit if you believe a radiological attack is possible.

Handling Death

Inevitably, whether it's from accident, disease, or old age, at some point your family or group is going to be confronted with death. If there is no physician, coroner, or mortician available to take possession of the body it will up to you and your family.

If someone is gravely ill or has met with an accident or act of violence, you need to check them thoroughly before determining whether life has ceased. Check for pulse, respiration, heart sounds and whether the pupils respond to light. If none of these are present and reasonable efforts at CPR have failed, the person is dead.

The human body decomposes very quickly, particularly in hot weather. Since a decomposing body is a health hazard, it is advisable to bury it as soon as possible. The grave should be

deep enough to prevent scavengers from reaching it. If possible, the body should be wrapped in a blanket or tarpaulin and then covered.

Depending on your belief system, you may want to say a few words or read from a religious book as part of a ceremony to remember the dead, or reciting a short poem may be appropriate.

You should also use some sort of marker to mark the location of the burial.

Record keeping is essential, especially if things return to normal and authorities begin to question the circumstances surrounding the death. So write down the date and time of death, the person's condition prior to death and any other pertinent information as to suspected cause of death.

Difficult Times

Even the best-prepared person will struggle if the U.S. healthcare system collapses and doctors are no longer available. Survival will be difficult, as even the slightest injury left untreated can easily become infected and develop into a life-threatening situation. Left without access to a doctor's experience, treating infections and diseases will fall onto the shoulders of the head of each household.

Proper preparation will make that difficult task a little easier and allow more attention to be devoted to providing for your family and keeping them safe in a chaotic environment.

CHAPTER 4

How to Survive a Biological Epidemic

It has affected high school wrestlers in Pennsylvania, members of the Cleveland Browns football team, two children at a Chicago elementary school and 13-year old Michael Literski of Philadelphia. It is sometimes fatal, as in Literski's case, and it is always life-threatening. It is *methicillin-resistant Staphylococcus aureaus,* or MRSA, and it is one of the deadliest superbugs known.

And superbugs are a growing health menace across the globe.

Literski was described as a perfectly healthy, perfectly normal 13-year-old who came home from school one day with what his parents believed to be a cold or flu bug. He was dead within a week, after telling his family it was time for him to go.

"All of a sudden, he just said, 'It's time,' and blood just started pouring out of his mouth and he was gone in my arms and my son was doing CPR on him," Michael's grandmother, Mary Ann Gwalthney was reported to have told medical investigators.

Staph infections like MRSA were once contracted mostly in hospital settings, with improper disinfection of medical instruments and bedding being the cause of most of the outbreaks. But similar infections are now increasingly being

spread throughout communities.

According to medical experts, MRSA starts off as a stuffy nose, a cough and mild fever. Patients who catch it can be dead in 72 hours; even young, healthy teenagers with no history of medical problems. It can also affect the skin—think flesh-eating bacteria—and physicians are seeing an increase in MRSA foot-related infections, according to the trade publication, *Infection Control Today.* Ophthalmologists are seeing it more as well, in cases of pink eye.

"If you have a cut or a scrape that gets infected and it's not healing in a timely fashion, don't hesitate to get it checked out," says Karl Collins, DPM, FACFAS, a foot and ankle surgeon in St. Louis. Collins said he has diagnosed community-associated MRSA infections in patients with athlete's foot and even a six-year-old who stubbed his toe.

The scientific website *Livescience.com* had the following to say about MRSA:

"An estimated 18,650 Americans died in 2005 from MRSA, a microbe whose defenses have benefited from decades of assault by antibiotics.

"The spread of MRSA isn't a flash in the pan. It's been around for about 50 years now,' said Dr. Cyrus Hopkins, an infectious diseases specialist at Massachusetts General Hospital.

"About 77% of deaths from MRSA in 2005 occurred in people 65 or older, according to a recent study in the *Journal of the American Medical Association,* an age bracket known for weakened immune systems."

According to the CDC, MRSA is spread by contact. So you could get MRSA by touching another person who has it on the skin. Or you could get it by touching objects that have

the bacteria on them. MRSA is carried, or "colonized," by about 1 percent of the population, although most of them aren't infected.

MRSA infections are most common among people who have weak immune systems and are living in hospitals, nursing homes and other heath care centers. Infections can appear around surgical wounds or invasive devices, like catheters or implanted feeding tubes. Rates of infection in hospitals, especially intensive care units, are rising throughout the world. In U.S. hospitals, MRSA causes more than 60 percent of staph infections.

But MRSA is also showing up in healthy people who have not been hospitalized. This type of MRSA is called community-associated MRSA, or CA-MRSA. The CDC reports that in 2007, 14 percent of people with MRSA infections had CA-MRSA.

Studies have shown that rates of CA-MRSA infection are growing fast. One study of children in south Texas found that cases of CA-MRSA had a 14-fold increase between 1999 and 2001.

CA-MRSA skin infections have been identified among certain populations that share close quarters or experience more skin-to-skin contact. Examples are team athletes, military recruits and prisoners. However, more and more CA-MRSA infections are being seen in the general community as well, especially in certain geographic regions.

It's also infecting much younger people. In a study of Minnesotans published in *The Journal of the American Medical Association,* the average age of people with MRSA in a hospital or healthcare facility was 68. But the average age of a person with CA-MRSA was only 23.

But MRSA is only one of many of the new superbugs—diseases which are resistant to traditional antibiotic treatments. And these superbugs can be contracted in the most innocuously-seeming circumstances, no matter how diligent you are in your efforts to remain disease-free.

Consider the case of Andrew Speaker, who caused an infection scare after he and his new wife took two transatlantic flights after being advised not to travel because he had contracted a drug-resistant strain of tuberculosis.

As a result, everyone he came in contact with on those flights, including every passenger in every plane, had to be tested multiple times for TB.

Superbugs

The U.S. Food and Drug Administration (FDA) and the Centers for Disease Control (CDC) list the following as drug-resistant strains of bacteria that can be categorized as superbugs:

- **Staphylococcus aureus.** This bacterium, which is the biggest cause of infections in patients in U.S. hospitals, can infect burns, skin and surgical wounds. Since 1996, at least four patients—three in the United States and one in Japan—reportedly were infected with a strain that was partially resistant to normal doses of the powerful, last-resort antibiotic *vancomycin*. Some strains of S. aureus have already shown resistance to all antibiotics other than vancomycin, raising the fear that an invincible strain is near at hand.
- **Enterococcus.** This organism can cause everything from urinary tract to heart valve infections. Some strains can outmatch many previously effective antibiotics.

- **Streptococcus pneumoniae.** Up to 30 percent of the strains of this bacterium, which can cause pneumonia, meningitis and ear infections, are at least partially resistant to antibiotics in the penicillin family, according to the Mayo Clinic.
- **Neisseria gonorrhoeae,** the cause of the sexually transmitted disease gonorrhea.
- **Salmonella,** Escherichia coli (E. coli) and other Enterobacteriaceae which are food poisoners.
- **Mycobacterium tuberculosis,** which causes TB.
- **Vancomycin-resistant Enterococci (VRE).** Enterococci are bacteria that are normally present in the human intestines and in the female genital tract and are often found in the environment. These bacteria can sometimes cause infections. Vancomycin is an antibiotic that is often used to treat infections caused by enterococci. In some cases, enterococci have become resistant to vancomycin and are called vancomycin-resistant enterococci or VRE. Most VRE infections occur in people in hospitals.
- **Clostridium difficile, or C. diff.** Most cases of C. diff occur in people taking antibiotics. Spores enter the body through the mouth, which is the entryway for the gastrointestinal tract. The overgrowth of the C. diff bacteria in the colon, or large intestine, can cause diarrhea, which is often severe and accompanied by intestinal inflammation known as colitis.

Overuse of Antibiotics

These diseases were all once effectively treated with antibiotics. But because the medical establishment has been

all-to-ready to prescribe antibiotics when they weren't needed—to pacify worried parents whose children suffered viral infections for instance—diseases are adapting.

Antibiotics are powerful drugs used for treating many serious and life-threatening infectious diseases, but taking them when you don't need to can lead to antibiotic-resistant germs. Antibiotics are only effective against bacterial infections, certain fungal infections and some kinds of parasites. Most infections result from either bacteria or viruses.

Antibiotics can't help you if a virus is responsible for your illness, according to *MayoClinic.com.* And some experts are even going so far as to say that anti-bacterial soaps and cleaners are contributing to the problem as well.

According to the CDC Foundation, young children, the elderly and immuno-compromised individuals are especially susceptible to contracting the superbugs. But even healthy older children and young adults can fall prey to the deadly bacteria.

The CDC Foundation is trying to fight the growing superbug problem by educating healthcare professionals, veterinarians and food industry representatives about their respective roles in preventing antibiotic resistance.

"(Antibiotic) overuse threatens the effectiveness of these precious drugs," says Cindy Friedman, M.D., medical director of CDC's Get Smart: Know When Antibiotics Work program. "Doctors and patients are both part of the problem. Studies show that if a doctor believes a patient wants an antibiotic, he or she is much more likely to prescribe one, even if the patient doesn't really need one."

Michael Ryback, Pharm.D., professor of pharmacology and medicine at Wayne State University in Michigan and contributor to the website *WebMD.com,* says the problem has gotten to the point that some have even suggested developing new classes of antibiotics and putting them on the shelf so there might be something to turn to in the future.

Avoiding Infection

In the meantime, Ryback says the best defense against any infectious disease—whether it's caused by a virus like Severe Acute Respiratory Syndrome (SARS: Which began in Asia in 2003 and spread to more than two dozen countries before it was contained) or bacteria—is to avoid getting sick in the first place by practicing good hygiene and a healthy lifestyle.

"Staying healthy and keeping your immune system viable is your greatest defense against all illnesses," Ryback tells WebMD. "Antibiotics and vaccines are only adjuncts."

The world in which we live today—with mass transit, high-rise office buildings with enclosed ventilation systems and masses of people living tightly packed in urban areas—

makes it difficult to remain germ-free. But experts have a few recommendations to help reduce your chance of contracting an infection. Among them:

- Practice good hygiene.
- Keep your hands clean by washing them frequently and thoroughly with soap and warm water or using an alcohol-based hand sanitizer. Hand-washing is the best way to avoid spreading germs.
- Keep cuts and scrapes clean and covered with a bandage and avoid contact with other people's wounds or bandages.
- Do not share personal items such as towels or razors.
- Bathe after swimming. Researchers studying ocean water at a popular beach in Florida found one in three bathers were exposed to MRSA. A small proportion of these were the potentially life-threatening drug-resistant strain, MRSA. "Staphylococcus is shed by individuals into the waters and if you do go into these waters you are likely to be exposed," said Lisa Plano who led the research at the University of Miami.
- Be smart about using antibiotics. Know that antibiotics can help treat bacterial infections but they cannot cure viral infections. Always ask your doctor if antibiotics are the best treatment and avoid pressuring your doctor into prescribing antibiotics when they won't help you get better.
- Always take all your antibiotic medicine as prescribed by your doctor. Using only part of the medicine can cause antibiotic-resistant bacteria to develop.
- Do not save any antibiotics and do not use antibiotics that were prescribed for someone else.

- If you are in the hospital, remind doctors and nurses to wash their hands before they touch you.
- Talk to your health care provider about antibiotic resistance.
- Don't demand an antibiotic for a cold or another viral illness if your doctor does not prescribe one. Ask about other ways to help relieve your symptoms.
- If your health care provider does prescribe an antibiotic, be sure that you take the medicine exactly as directed.
- Take your entire antibiotic, even if you start feeling better.

Preparing for a Possible Infection

While it may seem like a good idea to have some antibiotics on hand in case of exposure to a superbug or any other bacterial agent, experts say it is both impractical and a bad idea. Plus, should individuals begin hoarding, a shortage of needed medicines could be created that would prevent people from being properly treated who were exposed in an epidemic or attack.

You can, however, keep two things on hand that will help you in the event of infection, particularly if traditional medical care is not available: Colloidal silver and stabilized oxygen.

Until the beginning of the development of modern antibiotics in the 1940s, colloidal silver was the natural antibiotic of choice and had been for 50 years. Pharmaceutical antibiotics looked like miracles because, in the beginning, there were no antibiotic resistant strains of disease organisms. There was a lot of excitement over the new wonder

drugs. So naturally, colloidal silver went the wayside.

But with the increase in antibiotic-resistant bacteria, colloidal silver is reappearing. There is no doubt about the anti-bacterial and anti-microbial properties of colloidal silver. It is very effective against bacterial infections like strep throat, flu and fungal infections like Candida.

Germs can't escape colloidal silver no matter how much they mutate. And colloidal silver doesn't harm good bacteria. There are no known risks to using colloidal silver internally or externally.

It works by disabling the oxygen metabolism enzyme in bacteria, viruses and fungi, rendering them unable to breathe. This causes the cells to die and be eliminated by the body. Colloidal silver does not harm beneficial body cells.

While colloidal silver deprives bad microbes of their oxygen, stabilized oxygen increases the oxygen content of beneficial cells, making them stronger and better able to overcome disease-causing organisms. Both colloidal silver and stabilized oxygen are essential ingredients for your survival tool kit.

Preventing the Spread of Disease

If you have an infection, particularly one like MRSA, experts suggest you take the following steps to prevent the spread of the bacteria:

- Cover your wound with clean, dry bandages and follow your doctor's instructions on caring for your wound.
- Keep your hands clean. You, your family and other people with whom you are in close contact should wash their hands frequently with soap and warm water or use an alcohol-based hand sanitizer, especially

after changing the bandage or touching the wound.

- Do not share towels, washcloths, razors, clothing, or other items that may have had contact with your wound or a bandage. Wash your sheets, towels and clothes with warm water and detergent and dry them in a hot dryer, if possible.
- Avoid others with a known staph infection and tell others if you have one.
- Wash and dry all clothing, towels and bed linens in hot water if they come in contact with staph bacteria.

Preventing any illness, from the common cold to more serious infections, begins with the following seven basic prevention strategies, medical experts say:

- Think of hand washing as a survival skill.
- Never touch your mouth, nose, or eyes without washing your hands.
- Teach your kids not to share food and other things that go in the mouth, as in guzzling milk from the carton or double dipping chips.
- Encourage family members to cover their mouths with a tissue when they cough or sneeze and to dispose of the tissue themselves.
- Avoid sharing personal items like toiletries, towels and pillows.
- Get proper rest and good nutrition to improve resistance and bolster immunity.
- Keep your environment

clean by wiping frequently touched surfaces (such as countertops, doorknobs and light switches) with a disinfectant.

Biological Attack

Just days after the World Trade Center Towers came crashing down in New York, someone delivered several letters containing anthrax to a New Jersey Post Office. On October 5, 2001, Florida photojournalist Robert Stevens died of pulmonary anthrax and co-worker Ernesto Blanco was suffering symptoms of what at first was thought to be the flu, but later determined to be pulmonary anthrax. By the middle of November five people had died from inhaling anthrax and 17 more were injured from inhaling or coming in contact with the agent.

The CDC lists 16 biological agents that terrorists might use in an attack. They are: Smallpox, Anthrax, Plague, Botulism, Tularemia, VHF (Viral hemorrhagic fevers), VE (viral encephalitis), Q fever, Brucellosis, Glanders, Melioidosis, Psittacosis, Ricin toxin, Typhus, Cholera and Shigellosis. The first six listed are the most likely to be used by terrorists and pose the greatest potential public health impact with mass casualties, according to the CDC, so information on each of them follows.

Anthrax

Anthrax is an acute infectious disease caused by the spore-forming bacterium *Bacillus anthracis.* It most commonly occurs in wild and domestic animals like cattle, sheep, goats, camels, antelopes and other herbivores. It can occur in humans when they are exposed to infected animals or tissue from infected animals.

It is found most frequently in agricultural regions of South and Central America, southern and Eastern Europe, Asia, Africa, the Caribbean and the Middle East. Outbreaks rarely occur in livestock and game animals in the United States.

It occurs in three forms: cutaneous (skin), inhalation and gastrointestinal. In cutaneous infections the spores enter the body through cuts or abrasions. The area shows a raised, itchy bump that resembles an insect bite, but in 24 to 48 hours develops a vesicle and then a painless ulcer with a black, necrotic center. As it progresses, the disease may cause swelling of surrounding tissues.

When inhaled, symptoms begin resembling the common cold. After several days they progress to breathing problems and shock. Inhalation anthrax is usually fatal.

Intestinal anthrax is usually contracted by consuming infected meat and is characterized by an acute inflammation of the intestinal tract. Symptoms are nausea, loss of appetite, vomiting and fever, followed by abdominal pain, vomiting of blood and severe diarrhea. Soreness and lesions in the throat may also develop.

As evidenced by the attacks in the U.S. following 9/11, anthrax's use as weapon of terror is limited because it is not passed from person-to-person and a successful method of delivery to create mass casualties has not be perfected.

Smallpox

According to the CDC, Smallpox is caused by the variola virus that emerged in human populations thousands of years ago. Except for carefully-guarded laboratory stockpiles, the variola virus has been eliminated.

Smallpox is a serious, contagious and sometimes fatal

infectious disease. There is no specific treatment for smallpox disease, and the only prevention is vaccination. The *pox* part of *smallpox* is derived from the Latin word for "spotted" and refers to the raised bumps that appear on the face and body of an infected person.

There are two clinical forms of smallpox. Variola major is the severe and most common form of smallpox, with a more extensive rash and higher fever. There are four types of variola major smallpox: Ordinary (the most frequent type, accounting for 90 percent or more of cases); modified (mild and occurring in previously vaccinated persons); flat; and hemorrhagic (both rare and very severe). Historically, variola major has an overall fatality rate of about 30 percent; however, flat and hemorrhagic smallpox usually are fatal. Variola minor is a less common presentation of smallpox, and a much less severe disease, with death rates historically of 1 percent or less.

Smallpox outbreaks have occurred from time to time for thousands of years, but the disease is now eradicated after a successful worldwide vaccination program. The last case of smallpox in the United States was in 1949. The last naturally occurring case in the world was in Somalia in 1977.

Bubonic and Pneumonic Plague

Caused by a bacterium called *Yersinia pestis,* plague is transmitted between rodents to humans by infected fleas. There are about 1,000 to 2,000 cases worldwide each year, but outbreaks in the U.S. are becoming increasingly rare.

The bacterium can infect a person following a bite by an infected flea, or occasionally, can enter through a break in the skin or by direct contact with the tissue or body fluids

of an infected animal. It can also be contracted by inhaling infected droplets expelled by coughing—by a person or animal.

Onset of bubonic plague is usually two to six days after exposure. Early symptoms include fever, headache and general illness, followed by the development of painful, swollen regional lymph nodes (called a bubo). Occasionally, buboes cannot be detected for a day or so after the onset of other symptoms. The disease progresses rapidly and the bacteria can invade the bloodstream, producing severe illness, called plague septicemia.

Once a human is infected, a progressive and potentially fatal illness generally results unless specific antibiotic therapy is given. Progression leads to blood infection then lung infection. The infection of the lung is termed plague pneumonia.

The incubation period of primary pneumonic plague is one to three days and is characterized by development of an overwhelming pneumonia with high fever, cough, bloody sputum and chills. For plague pneumonia patients, the death rate is over 50 percent.

It is very likely that al-Qaida is attempting to develop the plague as a weapon of terror. Some experts believe a recently-reported outbreak of plague in Africa is a result of those efforts.

According to the British newspaper *The Sun,* at least 40 al-Qaeda terrorists died after the plague swept through their African training camp, indicating the organization was diligently working to develop the bacteria as a weapon of mass destruction

And its use as a weapon of war is not unprecedented.

According to Jeffrey A. Lockwood, author of *Six-Legged Soldiers: Using Insects as Weapons of War,* bubonic plague reached Europe in the 14th Century after the Mongols catapulted flea-ridden corpses into the port of Kaffa. People fled, carrying bacteria, rats and fleas through the Mediterranean. And, during World War II, the Japanese killed more than 400,000 Chinese by dropping plague-infested fleas on them.

Botulism

Made by the bacteria *Clostridium botulinum,* botulism is the most potent lethal substance known to man. It was developed as an aerosol weapon by several countries.

According to the Rhode Island Department of Health, no human data exists as to the effects of inhaling botulinum toxin, but it may resemble the food borne syndrome. That means the victim will experience muscle paralysis because of a nerve toxin that is made by the bacterium.

There are three main kinds of botulism, according to RIDH:

- Food borne—when a person ingests the toxin from improperly-prepared food.
- Infant botulism—when botulism spores begin to grow in an infant's intestines. It is not a public health risk because the infants are just ingesting the naturally-occurring C. boulinum spores from the environment but for unknown reasons they are susceptible to gut colonization.
- Wound botulism—when botulism bacteria grow in a wound creating an ongoing secretion of toxin that causes the paralytic illness. This is found primarly in intravenous drug users.

Symptoms of botulism include double vision, blurred

vision, drooping eyelids, slurred speech, difficulty swallowing, dry mouth, muscle weakness which always descends the body, starting in the shoulders then moving to upper arms, then lower arms, then thigh, calves, etc. Paralysis of breathing muscles can cause a person to stop breathing and die, unless assisted by a ventilator.

For food borne botulism, symptoms begin from six hours up to two weeks after eating toxin-containing food, but the delay is usually about 12 to 36 hours. Infants with botulism appear lethargic, feed poorly, are constipated and have a weak cry and muscle tone.

Botulism is not spread person-to-person. So, if used in a terrorist attack it would have to be dispersed to encourage breathing in the toxin or ingesting it. If ingestion is the means of dispersal, terrorists would have to find a way of getting it into the food or water supply.

Tularemia

According to the CDC, tularemia is a potentially serious illness, caused by the bacterium *Francisella tularensis* that occurs naturally in the U.S. It is found in animals, especially rodents, rabbits and hares.

Humans contract tularemia by being bitten by an infected tick, deerfly or other insect, handling infected animal carcasses, eating or drinking contaminated food or water, or breathing in the bacteria. It is not known to be spread person to person.

Symptoms include sudden fever, chills, headaches, diarrhea, muscle aches, joint pain, dry cough and progressive weakness.

It is very infectious, and only takes 10 to 50 or so

organisms to cause disease. If *F. tularensis* were used as a weapon, the bacteria would likely be made airborne for exposure by inhalation. People who inhale an infectious aerosol would generally experience severe respiratory illness, and without treatment could develop life-threatening pneumonia and systemic infection. The bacteria that cause tularemia occur widely in nature and could be isolated and grown in quantity in a laboratory, although manufacturing an effective aerosol weapon would require considerable sophistication.

VHF (Viral hemorrhagic fevers)

The term viral hemorrhagic fevers refer to a group of illnesses caused by several distinct families of viruses. They attack multiple organ systems in the body; damage the body's vascular system and the ability of the body to regulate itself. Most of them damage the vascular system and cause bleeding, though the bleeding itself is rarely fatal.

Ebola, Hantavirus, hemorrhagic fever, Marburg and Rift Valley fever are among the most-widely known strains of VHF.

According to the CDC, viruses that cause VHF naturally reside in an animal host and are totally dependent on their host for replication and overall survival. These hosts are typically rodents, monkeys, ticks and mosquitoes.

While people usually become infected only in areas where the host lives, occasionally people become infected by a host that has been exported from its natural habitat, as in the first outbreaks of Marburg fever in Marburg and Frankfurt, Germany.

VHF can be transmitted from the animal host to humans when humans have contact with urine, fecal matter, saliva, or other body excretions from infected animals, or from tick or

mosquito bites. The virus can then be spread from person to person through close contact with infected persons or their body fluids, or indirectly from contaminated objects and needles.

Symptoms include marked fever, fatigue, dizziness, muscle aches, loss of strength and exhaustion. Patients with severe cases of VHF often show signs of bleeding under the skin, in internal organs, or from body orifices like the mouth, eyes, or ears. Although they may bleed from many sites around the body, patients rarely die because of blood loss. Severely ill patient cases may also show shock, nervous system malfunction, coma, delirium and seizures. Some types of VHF are associated with renal (kidney) failure.

Because of its highly contagious nature and the fact that it can be found in areas near where terrorists reside, VHF is a real threat to be employed in a terrorist attack.

Ricin Toxin

Although down the list of CDCs concerns, the use of ricin as a weapon of terror must be considered. In January, 2004, British police raided an apartment and found traces of the poison ricin, a substance derived from Castor beans. Police suspected the Islamic militants arrested in the case were plotting to lace the food supply on at least one British military base using the ricin.

Some reports linked the Islamists with al-Qaida, and a British mosque raided later in connection to the case contained a number of forged passports, hundreds of documents relating to forging identities, weapons and a gas canister.

Since then ricin has been mailed to U.S. Senators and has been found in several places in the U.S. Clearly, Islamsist have supplies of the chemical and are even

now working to find the most effective means of distributing it.

If used by terrorists, ricin could be introduced to the population through the air, or through the water or food supplies, according to the CDC. It works by getting inside the cells of a person's body and preventing the cells from making the proteins they need to live.

Ricin poisoning is not contagious and its effects depend on whether it was inhaled, ingested, or injected. The initial symptoms of ricin poisoning by inhalation may occur within eight hours of exposure. If ingested, initial symptoms usually occur in less than six hours.

Symptoms are as follows:

- **Inhalation:** Within a few hours of inhaling significant amounts of ricin, the likely symptoms would be respiratory distress (difficulty breathing), fever, cough, nausea and tightness in the chest. Heavy sweating may follow as well as fluid building up in the lungs (pulmonary edema). This would make breathing even more difficult and the skin might turn blue. Excess fluid in the lungs would be diagnosed by x-ray or by listening to the chest with a stethoscope. Finally, low blood pressure and respiratory failure may occur, leading to death. In cases of known exposure to ricin, people having respiratory symptoms that started within 12 hours of inhaling ricin should seek medical care.
- **Ingestion:** If someone swallows a significant amount of ricin, he or she would develop vomiting and diarrhea that may become bloody. Severe dehydration may be the result, followed by low blood pressure. Other signs or symptoms may include hallucinations, seizures and blood

in the urine. Within several days, the person's liver, spleen and kidneys might stop working and the person could die.

- **Skin and eye exposure:** Ricin is unlikely to be absorbed through normal skin. Contact with ricin powders or products may cause redness and pain of the skin and the eyes.

Death from ricin poisoning could take place within 36 to 72 hours of exposure, depending on the route of exposure (inhalation, ingestion, or injection) and the size of the dose received.

Insect Weapons

As has already been discussed, governments have used insects as weapons before and it is likely that terrorists are exploring the idea. In addition to the spread of plague bacteria, according to Lockwood in his book, *Six-Legged Soldiers,* the Japanese dropped cholera-coated flies on the Chinese during World War II; the French and Germans pursued the mass production and dispersal of beetles to destroy enemy food supplies; and during the Cold War the U.S. military planned to produce 100,000,000 yellow fever-infected mosquitoes a month to use for dispersal over the Soviet Union.

Lockwood posits that terrorists with $100 worth of supplies, simple instructions and plane tickets could introduce Rift Valley fever (mosquito-borne VHF found in Africa that affects livestock and humans) to the U.S. or another target country with little or no chance of being caught.

Avian Flu

The Avian influenza virus usually refers to influenza A viruses found chiefly in birds. The virus poses a small risk to most people, as most reported cases of human infection

come from people who raise or process birds that were infected. Person to person transmission is even rarer.

However, like most viruses, the Avian flu virus continues to mutate. The CDC reports that it is possible the virus could adapt over time and be able to infect and spread among people.

Vaccines

Vaccinations are available to prevent the contraction of a host of diseases. But beware. While the saying goes that an ounce of prevention is worth a pound of cure, sometimes that ounce of prevention brings tons of consequences. Consider that one out of every 100 children vaccinated develops autism, one in six is learning disabled and one in nine gets vaccination-related asthma.

Because of the outcry of parents, 28 states, including Florida, Massachusetts and New York, allow parents to opt out of required vaccinations for medical or religious reasons. Twenty others, such as California, Texas, Pennsylvania and

Ohio also permit parents to give personal or philosophical reasons. Mississippi and West Virginia allow exemptions only for medical reasons, according to the Associated Press.

And consider this: Drug maker GlaxoSmithKline and one of its key executives are facing possible manslaughter charges from French authorities over an anti-Hepatitis "B" vaccine the company distributed between 1994 and 1998. Investigators say the company didn't adequately disclose possible side effects of the drug.

Almost all French newborns and two-thirds of the French population received the vaccine during the four-year period. More than 25 plaintiffs, including families of five people who died after receiving the vaccination, have sued the drug maker.

And drug maker Bayer AG admitted in 2003 that it had sold a blood-clotting product that caused hemophiliacs to be infected with the AIDS virus, according to AP reports. The infected drugs were sold in Latin America and Asia even after the company learned of the possibility of infection and a newer, AIDS-free drug had been manufactured.

If that's not enough to convince you of the dangers from government-approved vaccinations, an article in the *Toronto Sun* newspaper in March, 2009, reports that an Austrian research facility associated with drug maker Baxter International received a flu virus vaccine batch with seasonal flu viruses and live Avian (Bird) flu viruses co-mingled.

Scientists say this was a dangerous "accident" because while the Avian strain of virus doesn't easily infect people, the standard seasonal viruses do. If someone exposed to a mixture of the two had been simultaneously infected with both strains, he or she could have served as an incubator for a hybrid virus able to transmit easily to and among people.

That mixing process, called reassortment, is one of two ways pandemic viruses are created, experts told the *Toronto Sun.*

In the case of anthrax, while a vaccine has been developed and used on members of the military, it is not available to the general public. And the safety of that virus is subject to much debate. At least 21 soldiers have died and others have suffered disabling conditions after being injected with the vaccine.

Its use was so controversial that its requirement was removed for a time but that order expired and it is now being forced on military personnel again.

Following is a list of diseases for which vaccines have been or are currently being produced:

- **Anthrax —** For military only, not available to general public.
- **Cervical Cancer** (some types caused by human papillomavirus [HPV] and vaccine prevents HPV)
- **Diphtheria**
- **Hepatitis A**
- **Hepatitis B**
- **Haemophilus Influenzae Type b** (Hib)
- **Human Papillomavirus** (HPV)
- **Influenza** (Flu)
- **Japanese Encephalitis** (JE) **—** Only recommended for those spending a month or longer in endemic areas during transmission season.
- **Lyme Disease —** Vaccine no longer being produced
- **Measles**
- **Meningococcal**
- **Monkeypox —** Smallpox vaccine will work

- **Mumps**
- **Pertussis** (Whooping Cough)
- **Pneumococcal**
- **Poliomyelitis** (Polio)
- **Rabies**
- **Rotavirus Rubella** (German Measles)
- **Shingles** (Herpes Zoster)
- **Smallpox —** Vaccines for general public ceased in 1972 and now only some scientists and medical professionals are vaccinated. Government claims to have produced enough for entire U.S. population.
- **Tetanus** (Lockjaw)
- **Tuberculosis —** No longer widely used in U.S.
- **Typhoid Fever**
- **Varicella** (Chickenpox)
- **Yellow Fever**

Preparation is the Key to Survival

While agents of the government are diligently working to prevent a terrorist attack on U.S. soil, the odds mount that, sooner or later, a successful attack will happen. If you want to survive if an attack is pulled off you have to take steps to prepare yourself before the attack comes

What does that mean? It means using common sense. It means knowing how to respond to an emergency and following through with that knowledge without panicking. It means getting yourself in a position to provide the basic needs of you and your family until civilization is restored to normal.

A biological attack is different from any other type of attack in that the effects may not become obvious for two or more days. Biological agents may be released into the atmosphere or food and water supplies and authorities may not realize it until patients begin showing up at medical facilities in unusual numbers. By then, because of the way many biological agents can spread from person to person, the number affected will have increased beyond the immediate area of contamination.

However, if you learn that a biological attack is in its initial stages there are some steps you can take to try and protect yourself.

First, if you are inside and the agents are being dispersed through your building's ventilation system you should evacuate immediately through the nearest exit. If you are outside and there is a building nearby, you should enter it immediately and take steps to seal the agents outside as soon as possible.

If items like duct tape and plastic are available you should seal off windows, doors and air vents. (For instructions on how to do this properly see the section on building a safe room.)

If you are outside and there is no building nearby you should evacuate the area as quickly as possible. While your first impulse would be to flee in any direction, just so you get away, you should put a little thought into your escape route:

- Don't run downwind as this will keep you exposed for the longest time.
- Don't run upwind toward the area of contamination. While this may reduce the amount of time you are exposed, it will put you into the greatest concentration of the agent.

- Do run cross wind of the contamination. The agent will flow with the wind in a narrow band at first. Going cross wind will get you out of the contamination the quickest.
- Get into your safe room as quickly as possible.

If a biological agent is released into the water or food supply the first thing is to avoid the affected water or food. This is where you emergency food storage preparation comes in handy.

To Fight or Flee

If you believe you have been exposed to a biological agent you should first isolate yourself so as not to spread the disease. Remove your clothing and bathe with an anti-bacterial soap. Before seeking medical attention, call your doctor and get instructions. Don't immediately go to the doctor's office or hospital, for your own safety as well as that of others.

Keep your face covered. While an improvised mask probably won't protect you from long-term exposure, it will help reduce your chances of contracting or spreading disease in the short term.

The idea of using a gas mask to protect you from a biological attack may give you peace of mind but using one may give you a false sense of security. There are different types of masks, and they all have their limits.

The half-mask air-purifying mask is the least effective because it does not cover the eyes. It will filter the air you breathe, but some agents are capable of entering through the unprotected eyes. And, if there is a crack in the mask or it is ill-fitting, biological agents can easily enter these openings.

The full-face air-purifying mask is better because it covers the eyes as well as the mouth and nose. However, these, too, are subject to cracks or ill fits, which causes the problems previously mentioned.

The supplied-air respirator overcomes these problems by using a battery-operated canister to force air through the filter and into the mask. This action creates positive air pressure which prevents organisms from entering cracks or openings.

The most effective system is the self-contained breathing apparatus. Used by fire fighters (and SCUBA divers, the acronym is self-contained underwater breathing apparatus) the SCBA has an air tank that contains high-pressure purified air that provides a constant, positive pressure to the face mask. This type of mask is not suitable for civilian use, however, because the tanks are heavy and bulky and contain no more than one hour of useable oxygen.

You should continually monitor your emergency radio to get updates from the government on the status of the outbreak or attack. If the attack happened in another part of the country you should probably stay put, and avoid strangers or anyone who has traveled either into an affected area or has used public transportation.

If the attack occurred nearby you should also stay put as any travel outside your safe room will likely increase your risk of exposure.

If the attack is not nearby but the disease seems to be spreading in your direction then you may have to consider evacuating to an isolated area. Remember, the spread of infection from person-to-person is difficult to contain, particularly in densely-populated urban centers. But those in rural areas are better able to avoid contact with other

people, so those areas will see smaller rates of exposure.

Super bugs are real. So is the threat of bioterrorism. Dealing with biological agents, whether they are natural occurrences, freaks of nature, or introduced by people seeking to do harm is a difficult task.

If you want to survive the coming epidemic you should consider taking the steps outlined here to make sure your preparation is complete.

Final Suggestions

In order to prepare for a long-term crisis, you should consider stockpiling water, food, medical supplies, medicines, camping supplies, weapons, ammunition and gold and silver bullion now.

Here's why: If just one of the four areas of civilized life is broken, then chances are all other aspects of civilized society are gone as well. So you are going to be on your own for a while. Proper preparation is the only thing that is going to guarantee your survival. You are going to have to care for yourself and your family, since there will be likely no one else to help you.

Water is essential for life. You can go weeks without food. But, depending on the ambient temperature, after two or three days without water you will be in desperate straights. So stockpile at least two gallons of water per person per day you expect the emergency to last. You should also have on hand a generous supply of water purification tablets, household bleach, or some other means of purifying water.

A stock pile of food is also essential, as well as a means of killing game if the crisis is long-term. Canned and freeze-dried foods are essential for surviving both short- and

long-term in times of crisis. Canned soups, fruits, vegetables and meats should be kept in a dry, cool space. They have a shelf-life of two years so they should be rotated regularly. You can form this stockpile a little at a time by just buying a few extra items each time you go grocery shopping.

I encourage you to also pick up the other items mentioned here to add to your survival kit such as weapons and ammunition, hunting knife, fishing gear, tents, sleeping bags, an emergency radio as well as a good propane camping stove. These will be essential to your long-term survival.

Gold and silver will be the only money that survives the long-term breakdown of society. So, collect American Gold Eagles, African Krugerrands, Canadian Maple Leafs, or the Australian Kangaroo. We prefer these because they are stamped in English, have their gold content stamped on them, come in convenient, well-known sizes (1 oz., ½ oz., ¼ oz. and 1/10 oz.) and sell at small premiums over the value of their gold content. For survival purposes you may want to have 1/10 oz. and ¼ oz. sizes since they would be easier to use than larger sizes. Also, in the case of the American Eagles, the U.S. Mint lists them as legal tender.

For silver we recommend buying pre-1965 U.S silver coins. They were minted using 90 percent silver. They are still legal tender and are more valuable than their face value (proving the devaluation of the dollar) because of their silver content. One of the best ways to buy these is in bags with a thousand dollars face value of dimes, quarters, half-dollars or silver dollars. A bag contains 715 oz. of coins and currently costs between $28,000 and $30,000. You can also buy American Silver Eagles.

And remember, all of these items as well as your own skill set will be useful commodities for barter as civilized life returns to normal.

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